DEPARTMENT OF THE NAVY FISCAL YEAR (FY) 2004/2005 BIENNIAL BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES FEBRUARY 2003

AIRCRAFT PROCUREMENT, NAVY
Volume II:
BUDGET ACTIVITY 5

Department of the Navy

Exhibit P-1

FY 2004/2005 Procurement Program

APPROPRIATION: 1506N Aircraft Procurement, Navy DATE: February 2003 TOA, \$ IN MILLIONS (DOLLARS) ------ S IDENT FY 2004 ----FY 2002--- ----FY 2003---- E LINE NO ITEM NOMENCLATURE CODE UNIT COST QUANTITY COST QUANTITY COST QUANTITY COST QUANTITY COST C BUDGET ACTIVITY 05: Modification of Aircraft _____ Modification of Aircraft 25 0511 EA-6 Series 216.7 257.1 207.1 168.9 U A A 26 0514 AV-8 Series 73.9 58.8 20.9 18.8 U 27 0519 F-14 Series 3.6 A 9.9 – U 28 0522 Adversarv A 34.1 8.3 2.6 2.2 U 219.8 29 0525 F-18 Series Α 391.2 335.9 420.6 U 30 0526 H-46 Series Α 38.2 65.6 81.1 71.4 U 31 0527 AH-1W Series Α 14.7 19.7 5.8 2.2 U 27.9 9.7 32 0528 H-53 Series 20.7 10.0 U Α 33 0530 SH-60 Series 5.5 21.2 18.4 12.6 U Α 34 0532 H-1 Series Α 2.4 5.2 3.5 3.5 U 35 0534 H-3 Series Α 4.0 – U 36 0537 EP-3 Series Α 120.2 57.7 31.5 118.8 U 37 0538 P-3 Series 165.5 95.0 Α 195.5 137.2 U 38 0541 S-3 Series A 42.3 29.9 8.4 6.9 U 39 0544 E-2 Series 23.6 43.1 55.5 13.7 U Α 2.8 40 0549 Trainer A/C Series 5.1 10.5 11.8 U A 41 0556 C2-A Α 25.1 29.1 35.3 29.5 U 42 0560 C-130 Series Α 5.2 6.1 6.6 15.5 U 43 0561 FEWSG . 6 .6 .6 .6 U 44 0562 Cargo/Transport A/C Series A 9.0 U 7.1 3.7 13.3

* ITEMS UNDER \$50,000 PAGE N- 7

UNCLASSIFIED

Department of the Navy

FY 2004/2005 Procurement Program

APPROPRIATION: 1506N Aircraft Procurement, Navy

DATE: February 2003

111 110	11.211111011. 100011 112101410 1100	u_ 00110 ,	114.71				Bille: 1001ddig 2000
			(DOLLADO)		TOA, \$ IN I		
LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 2004 UNIT COST		FY 2003 QUANTITY COST		
45 05	64 E-6 Series	А		75.0	55.8	48.5	22.1 0
46 05	66 Executive Helicopters Seri	es A		25.8	15.8	26.5	21.9 U
47 05	67 Special Project Aircraft	A		12.5	10.9	49.6	21.0 U
48 05	69 T-45 Series	А		5.5	27.6	22.3	23.0 0
49 05	70 Power Plant Changes	A		12.9	13.4	21.6	19.7 t
50 05	71 JPATS Series	A		-	-	.5	.7 t
51 05	75 Aviation Life Support Mods	A		-	.5	6.4	4.9 U
52 05	76 Common ECM Equipment	A		34.9	28.7	20.7	43.4 U
53 05	77 Common Avionics Changes	A		67.9	61.8	148.6	169.4 U
54 05	90 V-22 (Tilt/Rotor Acft) Osp	rey B		17.1	4.8	4.8	35.5 U
TOTAL	Modification of Aircraft			1,348.1	1,397.1	1,278.8	1,414.7

Fiscal Year 2004/2005 Budget Estimates Budget Appendix Extract Language

AIRCRAFT PROCUREMENT, NAVY (APN)

For construction, procurement, production, modification, and modernization of aircraft, equipment, including ordnance, spare parts, and accessories therefor; specialized equipment; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, [\$8,812,855,000] \$8,788,148,000, to remain available for obligation until September 30, [2005] 2006, of which \$80,225,000 shall be for the Navy Reserve and the Marine Corps Reserve. (10 U.S.C. 5013, 5063, 7201, 7341; Department of Defense Appropriations Act, 2003.)

3/5/2003

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE:				
									Februa	ry 2003		
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOME	ENCLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Modifications									EA-6 Series	Modifications		
Program Element for Code B Items:						Other Relate	ed Program El	ements				
	Prior	ID									To	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		A										
COST (In Millions)	1690.0	A	216.7	257.1	207.1	168.9	110.2	39.1	20.7	24.4	147.9	2881.8

This line item funds modifications to the EA-6 aircraft. The EA-6B Prowler is a four-seat derivative of the A-6 Intruder medium attack aircraft. Among its features are a computer controlled electronic surveillance and control system and high power jamming transmitters in various frequency bands that are contained in pods mounted externally on the five aircraft pylons. The overall goal of the modifications budgeted in FY 2004/2005 is the procurement of a Universal Exciter Upgrade, Wing Center Sections (WCS), Low Band Transmitters, Block 89A upgrades, ASN-130A Replacement, J52 Reliability Improvements, Multifunctional Information Distribution System (LINK-16) and ICAP III upgrades. The overall goal of the modifications budgeted in FY 2004/2005 is the procurement of a Wing Center Sections (WCS), Low Band Transmitters, Block 89A upgrades, ASN-130A Replacement, J52 Reliability Improvements, Multifunctional Information Distribution System (LINK-16) and ICAP III upgrades.

					(TOA, \$ in Millions)						То	
OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Total</u>
19-79	ALQ-99 PODS	704.6	35.9	19.1	8.4	11.4	11.5	15.3	16.1	19.7	147.9	989.8
32-85	EA-6B Structural Improvements	503.3	106.0	92.4	86.7	71.1	28.1	23.2	4.5	4.6		920.0
	DERF Non-add		4.4									
111-87	J-52 Engines	12.7	18.9	6.5	4.7	0.3						43.2
	DERF Non-add		6.4									
42-93	EA-6B Block 89A Avionics	439.5	55.0	18.8	8.4							521.7
01-01	ICAP III	29.9	0.9	112.5	89.6	74.5	62.1					369.5
05-03	MIDS			7.8	9.3	11.5	8.5	0.6				37.7
	Total	1690.0	216.7	257.1	207.1	168.9	110.3	39.1	20.7	24.4	147.9	2881.8
Totals may not add	due to rounding											
FY 2002 Defense	Emergency Response Funding (DERF) received augmen	nts OSIPs 32-85 and 111-87.										

P-1 SHOPPING LIST ITEM NO. 25 PAGE NO. 1 OF 18

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a Individual Modification

MODIFICATION TITLE: ALQ-99 PODS (OSIP 19-79)

MODELS OF SYSTEMS AFFECTED: <u>EA-6B Series Modifications</u> TYPE MODIFICATION: <u>Reliability/Mission Capability</u>

DESCRIPTION/JUSTIFICATION:

UNIVERSAL EXCITER UPGRADE

The Universal Exciter Upgrade (UEU) provides a 30% improvement in reliability over that of the current Universal Exciter (UE / MTBF = 100 hrs). Increased maintainability, elimination of multiple configurations and performance improvements are additional improvements. ORD 4474-88-97 defines the UEU requirements. The UEU entered Engineering and Manufacturing Development in 1991 and achieved Milestone III approval for full rate production in Apr 96. A contract for 119 UCUS was awarded in Sep 99. The modification of UEs to UEUs is accomplished via "turn key" sole source contract. Initial UEU deliveries occurred in Jul 98, which allowed for an Initial Operational Capability in Apr 99. With the planned follow-on procurements, deliveries will continue out into 2003. GFE and consumables are required to support to these deliveries until 1703. ALQ-99 Exciters are Weapons Replaceable Assemblies that are readily enrowed and installation the ALQ-99 Pod, thus on installation effort/funding is accided with this program. This capability will be available for all the 122 aircraft, which includes four Naval Alf Reserve aircraft does not apply to the National

LOW BAND TRANSMITTER

The Low Band Transmitter (LBT) will provide the EA-6B with an expanded jamming capability against the Early Warning/Acquisition Radars and Communication Links of modern Integrated Air Defense Systems. Reliability and maintainability will also be greatly improved over that of current ALQ-99 Transmitters. Following a competitive acquisition and Milestone II approval, Engineering and Manufacturing Development was initiated in Sep 96. Critical Design Review was conditionally approved in Dec 97; however, a follow-or preview to close out action items was completed in Nove 98. Testing to date has consisted of prototype testing conducted at government and contractor facilities. This esting has successfully demonstrated the key performance parameters identified in OPNAV/NB8 If Ser No. NB80C3/6566399 of 26 JUL 96 can be attained by the present design. Fabrication of Engineering Development Models (EDMs) began in FY00. EDMs will be used for contractor and Navy testing required to support LRIP and Milestone III approval. The LBT inventory objective is 208. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effortfunding is associated with this program. Aircraft Operational Flight Program changes are required to support aircraft integration of this transmitter. This capability will be available for all 122 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.

PAO TRANSMITTER COOLANT MODIFICATION

EA-BBIALO-99 Transmitters and support equipment currently use Coolanol for the dielectric coolant required to dissipate heat from and prevent arcing of high voltage power supplies. Coolanol costs over \$300/gallon, is a known carcinogen and must be handled as a hazardous material. Given that the EA-6B is the sole remaining user of Coolanol 35, it's future availability is in doubt. The replacement coolant for Coolanol is Polyaphaoletin (PAD), which costs less than \$25/gallon and is non-hazardous. PAO is widely used by other U.S. military platforms and systems. Additionally, the equipment has to be converted in order to be compatible with the Consolidated Automated Support System (CASS) High Power Device Test Set (HPDTS) modification. HPDTS will allow CASS to test ALQ-99 Transmitters, thereby eliminating the requirements for the EA-6B peculiar Transmitter Test Station (TTS). This transition from the TTS to the CASS is expected to begin in Dec 00. The cooling system of the HPDTS only supports PAO, thus all units tested with it must use PAO as their coolant. ALQ-99 Transmitters require modification in order to utilize PAO, because the polymer-based material currently used as in high voltage lead insulation and wire harmess indentification markers dissolve when exposed to PAO. This material must be replaced with an improved material that through testing has been identification to refer solved to the provision of the

SUPPORT EQUIPMENT

Introduction of new/modified ALQ-99 pod equipment requires new/modified organizational, intermediate and depot level support equipment, such as modifications to the pod test set to support Low Band Transmitter and Band 7/8 Transmitter, modifications to High Power Device Test Set (HPDTS) to extend frequency coverage to test Band 9/10 transmitters, new Test Program Sets to test Low Band Transmitter and Band 9/10 Transmitters and modified Intermediate/depot level support equipment to test Band 7/8 Transmitters.

ENGINEERING CHANGES

This ALQ-99 PODS Operational and Safety Improvement Program covers ALQ-99 Pod modifications required to improve reliability/maintainability/availability, enhance mission capability, resolve obsolescence issues, and correct defiencies found in testing or in the field BAND 9/10 TRANSMITTER:

The Band 9/10 Transmitter (Band 9/10) provides the EA-6B an expanded jamming capability against target tracking/fire control radars of modern Integrated Air Defense Systems. Reliability and maintainability are also greatly improved over that of current ALQ-99 Transmitters. Following a competitive acquisition, Engineering and Manufacturing Development of the Band 9/10 was initiated in Jan 92. Production began in FY98, with Initial Operational Capability being accomplished in Nov 99. A total of 204 Band 9/10 Transmitters were procured between FY98 and FY00 with the last transmitter planned to deliver in Nov 02. The Band 9/10 inventory objective is 253. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Ord, thus no installation effort/funding is associated with these program. This capability will be available for all the 122 EA-68 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard. In FY02, total program increases \$143.5M as result of a Congressional Plus-up to procure ten (10) additional Band 9/10 Transmitters and support.

EXTENDED HIGH BAND RADOME:

A modified ALQ-99 Extended High Band Radome is required for compatibility with the Band 9/10 Transmitter (Band 9/10). This Radome incorporates unique sections of the radome composite structure to prevent damage by impinging energy radiation from the Band 9/10. Between FY98 and FY01, 250 ALQ-99 radomes were modified to this configuration. Future requirements for these radomes will be met by new production, vice modification, as there are no more existing assets to modify. ALQ-99 Radomes are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 POd, thus no installation effort/funding is associated with this program. This capability will be available for the total of 122 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard. In FY02, total program increases S.SM as result of a Congressional Plus-up to procure ten (10) Band 9/10 Radomes.

P-1 SHOPPING LIST ITEM NO. 25

9/5/2003 PAGE NO. 2 OF 18 CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Delivery of UEU Engineering Design Models (EDMs) began in the first quarter of FY1995 with developmental and operational testing completed in the second quarter of FY1996 achieving approval for full production, milestone III in March 1996 and followed by a production contract award. A development contract for the low band transmitter was awarded in September 1996 with testing expected to begin in the third quarter of FY2002 and MS III expected in the first quarter of FY2004.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	003	FY:	2004	FY 2	005	FY:	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		8.7		5.4		2.0																
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment	2,575	199.9																				
Universal Exciter Upgrade	480	223.3																				
Lowband Transmitter							9	7.5	13	10.8												
PAO Transmitter Mod	1,296	5.8																				
Band 9/10 Transmitter	209	106.4	12	13.0	14	13.5																
Band 9/10 Radome	250	4.4	10	0.5																		
ALQ-99 Band-4 TWT IM						1.8																Ь
																						Ь
																						<u> </u>
Installation Equipment N/R		9.7		1.5																		
Engineering Change Orders				1.1		0.1		0.1														<u> </u>
Data		9.5		0.1		0.1		0.1														Ь
Training Equipment		1.6																				Ь
Support Equipment	6	85.9		10.6		0.3		0.2		0.6												Ь
ILS		2.7		1.6																		Ь—
Other Support		36.5		7.5		3.4		0.5														Ь—
Interim Contractor Support																						
Installation Cost	1,207	18.9																				Щ.
Total Procurement		704.6		35.9		19.1		8.4		11.4		1			1		1	1				1

- UEU Repair of GFE costs are included in the UEU Installed Equipment line.
- 2. Install schedules not provided for GFE that fits into the POD without structural modification, or for equipment not requiring APN-5 funding for installation into the pod/aircraft (e.g.: LBT, UEU).

 3. Funding for Repair of GFE was reported in Installation Cost for PB01 and has been redirected to the Install Equipment line under UEU Install Equipment.
- Total Band 9/10 Transmitters include 5 EDM's.
 Totals may not add due to rounding.

UNCLASSIFIED CLASSIFICATION:

Exhibit P-3a Individual Modification

MODIFICATION TITLE: FA-6B Structural Improvements (OSIP 32-85)

MODELS OF SYSTEMS AFFECTED: **FA-6 Series Modifications** TYPE MODIFICATION: Safety of Flight

DESCRIPTION/JUSTIFICATION: This Omnibus Operational and Safety Improvement Program covers EA-6B Structural modifications and EA-6B peculiar avionics modifications arising from test/deficiencies and those safety of flight related improvements. Included are Structural Improvement modifications which includes fixes for areas found to be deficient during aircraft fatigue test; Wing Center Sections (WCS) which replace wings that have either cracked due to stress corrosion or have reached their wing fatique life limit; Structural Data Recording System (SDRS) which will provide a more accurate measurement of Fatique Life Expenditure (FLE); the Joint Mission Planner which provides for the maintenance of the current EA-6B mission planning system (TEAMS) and its subsequent migration to TAMPS; Outer Wing Panels(OWP) will replace OWPOs that have reached their fatigue life limit. This OSIP also includes the Connectivity and USQ-113 programs. In FY02 received supplemental in the amount \$35M of Defense Emergency Response Funds (DERF) III for 10 additional WCS. In FY03, total porogram increases as a result of Congressional Plus-ups in the amount of \$9M for 3 additional WCS, USQ113 Jammers \$10.5M, On-Board Oxygen Gene (OBOG) \$1M, and Ready Room Mission Rehearsal System \$3.1M.

ASN-130A Replacement: Funding for this upgrade was provided via a Cost Reduction Effectiveness Improvement Council (CREIC) initiative during the POM-02 process. The aging ASN-130Awill be replaced with the ASN-172, with a combined inertial navigation/GPS system 2nd EGI. Reliability and maintainability will be improved.

Outer Wing Panel (OWP) program will include an engineering evaluation of the fatigue life expenditure (FLE) rate and design solution to the problem. The solution may range from an airframe change to improve FLE to replace the OWP to ensure the EA-6B availability through FY-2015. In FY02 received via supplemental in the amount of \$25M of DERF III funds for 3 additional Outer Wing Panels.

Mission Reprogramming Unit (MRU): This program resulted from an Affordable Readiness Initiative (ARI) that provides an upgrade to the existing memory input/output capability of the mission computer. Tape driven devices which are no longer being produced are being replaced with PCMCIA cards that are more reliable and maintainable. Funding for this upgrade resided in OSIP 1-01 during the PB01 process.

EA-6B Power PC initiative: This initiative proposes to add a COTS PowerPC processor to the AYK-14, XN-11/CP-2357. This special EA-6B AYK-14 chassis has already been upgraded to support COTS SRAs on its VME backplane. Funding is required for COTS hardware (Processor SRA) and integration kit (Memory Bridge SRA), addition of a few laboratory support tools, development testing, and modification to technical publication source data and maintenance plans.

EA-6B (MK-GRU-EA7) Ejection seat initiative: The GRUAE7 ejection seat, used in the EA-6B aircraft uses standard British hardware to build the GRUAE7 ejection seat. This hardware is replaced 100% during depot rework and 224 day "O" level maintenanace. The cost of standard British hardware is 4 to 5 times more that the US (NAS/MS) hardware. Replacing the standard British hardware with US(NAS/MS) hardware will drastically reduce the material cost for the GRUAE7 ejection seat.

EA-6B Digital Flight Control System (DFCS): The DFCS program comprises the adaption of existing Digital Flight Control Computer (DFCC) and Digital Control Panel (DCP) to replace the existing Air Navigational Computer (ANC) and control panel presently fitted to the EA-6B aircraft. This replacement DFCS will be configured to ensure only the minimum number of aircraft changes are required. Intended to eliminate the problem of spurious inputs to Flight Control Systems.

P-1 SHOPPING LIST ITEM NO. 25

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Major milestones include the completion of SDRS and 9th Squadron Support Equipment.

	Prior	r Years	FY 2	2002	FY 2	2003	FY:	2004	FY 2	2005	FY	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&EN																						
Procurement																						
Installation Kits	3,101	36.3																				
SDRS Kit	122	1.7																				
ASN-130A Replacement (2nd EGI)			44	0.3	28	0.2	21	0.2	23	0.2												
Wing Center Section	57	183.1	20	61.8	18	54.8	17	52.0	10	38.8												
Outer Wing Panel			3	25.0																		
DFCS									50	7.1												
AN/USQ-113	145	3.1			10	8.0	4	2.0														
Mission Rehearsal System (MRS)						0.7																
, , ,																						
Installation Kits N/R		19.7		0.6		3.0		3.0		1.9												
AN/USQ-113						2.5																
Mission Rehearsal System (MRS)						2.1																
On-Board Oxygen Gene (OBOG)					2	1.0																
Installation Equipment	1,949	88.5																				
Mission Reprogramming Unit		7.9		3.3																		
ASN-130A Replacement (2ND EGI)				1.4		0.3		2.4		2.3												
Power PC Integration						2.0		0.6		0.5												
Ejection Seat						0.3																
Installation Equipment N/R		17.9				1.5		5.2														
Engineering Change Orders		0.8		0.5		0.5		0.5		0.5												
Data		11.4		0.2		0.2		0.8														
Training Equipment	15	2.6		0.4				0.2														
Support Equipment		15.1																				
ILS		1.5		0.1		0.2		0.5														
Other Support		50.5		1.2		2.4		2.3		2.6												
Interim Contractor Support																						
Installation Cost	854	63.3	93	11.1	35	12.9	45	17.1	90	17.3												
Total Procurement		503.3		106.0		92.4		86.7		71.1												

^{*} Totals less than \$50K.

^{1.} Totals may not add due to rounding.
2. ASN-130A Installation Kit quantities (121) do not include VEP aircraft quantity (1) obtained via FY00 Congressional Add.
3. FY 2002 Defense Emergency Response Funding (DERF) received for OWP \$4.4M.

Exhibit P-3a MODELS OF SYSTEMS AFFECT	≣D:	<u>E</u>	A-6B Series	s Modifica	ations					МС	DIFICATION	ON TITLE:	Wing Ce	nter Sectio	n (OSIP 3	(2-85)								
NSTALLATION INFORMATION:																								
METHOD OF IMPLEMENTATION		_								Contr	actor Turi	n-key for	FY97 Proc	urement.	Commer	cial & Org	anic insta	lls FY98 a	ind out.					
ADMINISTRATIVE LEADTIME:		_		(6	Months				PRODUC	TION LEA	ADTIME:			2	28	Months							
CONTRACT DATES:	FY 20	002:		Nov-01		_	FY 2003:		Dec-02		=	FY 2004		Dec-03		=	FY 2005:		Dec-04		_			
DELIVERY DATE:	FY 20	002:		Mar-04		-	FY 2003:		Mar-05		-	FY 2004		Mar-06		_	FY 2005:		Mar-07		=			
			-			ı					(\$ in Million	r		T						·				1
Cost:		Prior \			2002		2003	FY 2			2005		2006		2007		2008		2009		omplete	_	TAL	
	Qty	_	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & Prior (57) kits		30	29.7	14	10.1	13	10.6	, -	40-				-								-	-	-	
FY 2002 (20) kits FY 2003 (18) kits						3	2.0	16	16.7	15	1.0													
FY 2003 (18) kits FY 2004 (17) kits										15	15.1											1		
FY 2005 (10) kits																								
FY 2006 () kits																								
FY 2007 () kits																								
FY 2008 () kits																								
FY 2009 () kits																								
To Complete () kits																								
TOTAL		30	29.7	14	10.1	16	12.6	16	16.7	16	16.1													
Totals may not add due t FY03 Includes WCS installation Schedule	-	rcraft i	making 123	aircraft.																				
FY 2001		FY 200	02			FY 2	2003			FY	2004			FY 2	2005			FY	2006			F	Y 2007	
& Prior	1 2		3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In 30	2 3		5	4	4	4	4	4	4	4	4	4	4	4	4	4								
Out 26	3		2	2	2	1	5	4	4	4	4	4	4	4	4	4								
				1				1																
	FY 2008					2009			0				*FY00 ins	stallation co	sts includ	led in FY97	7 & prior tu	rn-key con	tracts.					
1	2 3		4	1	2	3	4	Com	plete		TAL	4												
In								3			22	4												
Out 3	3 3	- 1	3	1	2	I		3	n	1 1	22	1												

xhibit P-3a																										
ODELS OF S	SYSTEMS AFF	ECTED:		EA-6B Serie	s Modifica	ations					MC	DIFICATION	ON TITLE:	SDRS KI	TS (OSIP	32-85)										
STALLATIO	N INFORMATIO	ON:																								
IETHOD OF I	MPLEMENTAT	ION:												Con	ractor Mo	d Team/O	rganic									
DMINISTRAT	TIVE LEADTIME	≣:				1	Months	<u>.</u>			PRODUC	TION LEA	DTIME:				5	Months								
ONTRACT D	ATES:		FY 2002:		N/A			FY 2003:	:	N/A			FY 2004:		N/A			FY 2005:		N/A						
ELIVERY DA	TE:		FY 2002:		N/A		='					='			N/A			FY 2005:				-				
							=					_					-					-				
_			T									(\$ in Millio													1	
	Cost:		Prio Qty	r Years \$	FY 2	2002 \$	Qty	2003	Qty	2004 \$	Qty	2005 \$	Qty	2006 \$	Qty	2007 \$	Qty	2008 \$	Qty	2009 \$	To C Qty	omplete \$	Qty	TAL \$	•	
EV 200	1 & Prior (122)	kite	78	1.4	Qty 44	φ 0.6		φ	Qiy	φ	Qiy	φ	Qiy	ş	Qty	ş	Qiy	ş	Qty	J.	Qiy	φ	Qty	,		
FY 200		KILO	70	1.9	44	0.0																			1	
	3 () kits																									
	4 () kits																								1	
FY 200	5 () kits																									
FY 200	6 () kits																									
FY 200																										
FY 200														ļ												
FY 200			-					ļ									-								ł	
	nplete () kits							ļ				ļ													ł	
TOTAL			78	1.4	44	0.6								<u> </u>						<u> </u>					j	
Installati	on Schedule FY 2001		FY	2002			FY	2003			FY	2004		ı	FY	2005			FY	2006		I	F	Y 2007		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In	78	12	12	10	10																					
Out	66	12	12	12	10	10																				
	_												1													
	1	FY 2	2008	4	1	FY:	2009	4		o plete	то	TAL														
In											•	22	1													
Out												22	1													
					-			•	-				•													

hibit P-3a																							
ODELS OF SYSTEMS AFFECTED:		EA-6B Serie	es Modific	ation					МС	DIFICATION	ON TITLE	ASN-130	A Replace	ment (2nd	d EGI)								
STALLATION INFORMATION:																							
ETHOD OF IMPLEMENTATION:													Organic I	nstallatio	ns								
MINISTRATIVE LEADTIME:					1 Month				PRODUC	CTION LEA	DTIME:					3 Months	_						
ONTRACT DATES:	FY 2002:		Nov-01		_	FY 2003:		Nov-02		_	FY 2004	: <u></u>	Nov-03		_	FY 2005		Nov-04		_			
LIVERY DATE:	FY 2002:		Feb-02		_	FY 2003:		Feb-03		_	FY 2004	:	Feb-04		_	FY 2005		Feb-05		_			
										(\$ in Millio	ns)												
Cost:	Prio	r Years	FY:	2002	FY	2003	FY 2	2004	FY	2005	FY	2006	FY:	2007		2008		2009		omplete		TAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & Prior () kits																							
FY 2002 (44) kits			36	0.5		0.1																	
FY 2003 (28) kits					11	0.2	17																
FY 2004 (21) kits							12	0.2		0.1													
FY 2005 (23) kits									15	0.2													
FY 2006 () kits																							
FY 2007 () kits																							
FY 2008 () kits																							
FY 2009 () kits																							
To Complete (5) kits						0.3		0.4	<u> </u>														
TOTAL Installation Schedule			36	0.5	5 19	0.0	29	0.4	24	0.4				ı									
FY 2001	FY 2	2002			FY	2003			FY	2004			FY:	2005			FY:	2006			F	Y 2007	
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	6	15	15	4	5	5	5	7	7	7	8	6	6	6	6								
Out		6	15	15	4	5	5	5	7	7	7	8	6	6	6	6							
											_												
F	Y 2006			FY	2007		Т	Ō															
	3	4	1	2	3	4	Com	plete		TAL	ı												
1 2							1	3	1	21	1												
1 2 In								3		21													

P-1 SHOPPING LIST ITEM NO. 25
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xhibit P-3a																											
ODELS OF	SYSTEMS A	FFECTE	D:		EA-6B Serie	es Modific	ation				-	МО	DIFICATION	ON TITLE:	DFCS												
NSTALLATIO	ON INFORMA	TION:																									
METHOD OF	IMPLEMENT	TATION:														Organic In	stallation	ıs									
DMINISTRA	ATIVE LEADT	IME:						1 Month	•			PRODUC	TION LEA	DTIME:					1 Months								
ONTRACT	DATES:			FY 2002:				_	FY 2003:					FY 2004:				_	FY 2005:		Oct-04		_				
ELIVERY D	ATE:			FY 2002:				-	FY 2003:				-	FY 2004:				-	FY 2005:		Oct-04		-				
								•		•			(\$ in Millio					•		1						-	
	Cost	:			r Years	_	2002		2003		2004	_	2005		2006	FY 2			2008		2009		omplete	_	TAL		
-				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
	01 & Prior ()	kits																									
	02 () kits 03 () kits					1																					
	04 () kits					1																				1	
	05 (50) kits					1						50	0.8											1		1	
	06 () kits					1						50	0.0											1		1	
	07 () kits																									1	
	08 () kits																										
	09 () kits																									1	
	mplete (50) k	its																								1	
TOTA												50	0.8														
Installa	tion Schedule	•																									
	EV 2004			FY 2	2000			EV.	2003		ı —	EV.	2004			FV.	2005		ı —	EV.	2000		1	_	Y 2007		7
	FY 2001 & Prior		1 1	2	3	4	1	2	3	4	1	2	2004	4	1	FY 2	3	4	1	2	2006	4	1	2	3	4	1
In	Q I IIO				J	-				-	-		J		12	12	13	13	<u> </u>		J	7	-		J	-	1
Out															12	12	13	13									j
						1								1													
	1	.	FY 20	3	4	1	2	2007	4	1	To	то:	T.4.1														
1-	1	+-	۷ .	3	4	 		3	4		plete	•	TAL														
In Out						1	1		 		50		00	ł													
Out											50	10	00	J													

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	J-52 Engines (OSIP 111-87)		
MODELS OF SYSTEMS AFFECTED:	EA-6B Series Modification	TYPE MODIFICATION:	Reliability Upgrade

J-52 Engine Improvements: The J-52 engine is a legacy gas turbine engine, which powers the EA-6B and has been in service since the 1960's. This initiative will capitalize on R&D efforts funded through the Engine Component Improvement Program (CIP). Through the CIP, the J-52 Team has identified specific reliability discrepancy trends and has developed appropriate Engineering Change Proposals (ECP) and Power Plant Changes (PPC). To specifically address the risk of uncontained turbine blade failures and design various other engine improvements, CIP projects were undertaken. The results include an improved Turbine Exhaust Case (TEC) that provides low pressure turbine (LPT) containment and other durability improvements. These improvements will be replaced at normal engine overhaul, incurring no additional installation costs. Installations will be performed concurrently with Standard Depot Level Maintenance (SDLM), Engine Overhaul and other O&M.N funded availabilities. FY02 Congressional add funds in the amount of \$8.1M of DERFIII funds.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development of the Improved Turbine Exhaust Case (TEC) began in FY95 using engine CIP and contractor funds. Testing and ECP approval was completed in the first quarter of FY98 (OCT 97), followed by a production contract award. All ECPs are approved and Technical Directives (TD) are completed or in process. Incorporation of initial PPC 306 TEC kits is in process. Initial PPC 304 kits are on order and NAVICP is currently procuring attrition parts.

FINANCIAL PLAN: (TOA, \$ in Millions)

· · · · · · · · · · · · · · · · · · ·	Prior Y	/ears	FY 2	2002	FY 2	2003	FY 2	2004	FY:	2005	FY 2	2006	FY:	2007	FY	2008	FY:	2009	To Co	mplete	T	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Turbine Blade Containment Kit	108	11.6	110	13.9	51	5.8	33	4.6	2	0.3												
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.2																				
Training Equipment																						
Support Equipment		0.3																				
AXIAM Equipment				2.5																		
ILS		0.2																				
Other Support		0.5		2.5		0.7		0.1		0.1												
Installation Cost																			-			
Total Procurement	l i	12.7		18.9		6.5		4.7		0.3		0.0		0.0		0.0		0.0		0.0	0	0

Notes:

- 1. Totals may not add due to rounding
- 2. Funding provided within the FYDP reflects an approved Reduction in Total Ownership Cost (RTOC) initiative.
- 3. Installations will be performed concurrently with Standard Depot Level Maintenance (SDLM), Engine Overhauls and other O&M,N funded efforts.
- 4. FY 2002 Defense Emergency Response Funding (DERF) received for J52 \$11.5M.

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CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	Block 89A Avionics (OSIP 42-93)		
MODELS OF SYSTEMS AFFECTED:	EA-6 Series Modifications	TYPE MODIFICATION:	Safety of Flight/ Reliability
improvements. The avionics common syste NATO forces. (2) The Embedded GPs Iner Electronic Instrumentation System (EFIS), C DSDC for use in Block 89A. The DSDC fun will be upgraded with Very High Speed Integ computer and incorporate a new backplane A) cards. (5) Mission Planning System: Th Modifications to the AN/TSQ-142 are requir of avionics, such as ARC-199 Radios, CIU/E	wement Program covers EA-6B ICAP II Block 89A Avionics systems modifications arms upgrade includes incorporation of: (1) AN/ARC-210 VHF/UHF radios having \$1 tial Navigation System (EGI) providing a closely coupled GPS-INS solution and recontrol Display Navigation Unit (CDNU), and Digital Signal Data Converter (DSDC) citions as an interface unit for the EFIS and is connected to the 1553 Navigation dagrated Circuit Technology (VHSIC) improving processing, memory, and throughput that supports the new VHSIC processor Module and provides VME-bus expansion at AN/TSQ-142 Mission Planner provides operational flight program loading, mapsed to support the Block-89A upgrade, and to support transition of EA-6B MPS. (6 E, HARM, Dual EGI, and Night Vision capability in all aircraft. * Funding for the Nigneering and integrations effort, display and lighting modifications, and various elect	SINCGARS and HAVEQUIC placing the ASN-50 AHRS v I, which were installed as part at bus to provide additional t. The upgraded computer (n slots. Discrete and Serial I, EW libraries, jammer techi I) Misc. Avionics: Additional pht Vision Device upgrade w	CK modes for inter-operability with Air Force, ground, and which has very poor reliability. (3) Full integration of the art of AFC778-779. This OSIP provides for upgrade of the I navigation data to the aircrew. (4) The AYK-14 computer (CP-2357) will retain the outer form factor of the current Modules (DSM) replace the Serial Interface Module-A (SIMniques, HARM data, and performs data reduction. Engineering Change Proposals (ECP) and procurement was provided via an FY00 Congressional add and is

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UNCLASSIFIED

CLASSIFICATION:

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-210 UHF/VHF radio is a common avionics system to be installed in all Navy aircraft, and has undergone OPEVAL on the F-18, UH-1, and other platforms. The EA-6B has been approved for installation. The EFIS system completed successful OPEVAL and was approved for full rate production and will require minimal upgrade FOT&E for the required interface and incorporation of EGI data. The EGI is common avionics with the F-18 EGI and has been extensively flight tested in that platform. The AYK-14 (XN-*) computer utilizes modules that are common avionics to Navy inventory, and a chassis similar to the current XN-4. The similarity and commonality of the upgraded AYK-14 required little additional qualification testing. DT began on the Block -89A system in FY-98, with an intensive integrated Test and Evaluation period. Testing of software, upgraded avionics, including some regression testing of existing functionality, and testing of the mission planning system are currently being conducted.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	/ears	FY:	2002	FY 2	2003	FY:	2004	FY	2005	FY:	2006	F١	2007	FY 2	800	FY	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PROCUREMENT																						
Installation Kits	20	59.5																			·	
Block 82 to 89A Kit	44	40.5	3	3.1																		
Block 89 to 89A Kit	39	12.7	6	1.2																	·	
Installation Kits N/R	8	61.4																			·	
Installation Equipment	101	5.8																			·	
Block 82 to 89A Equip	3	11.6	3	3.2																		
Block 89 to 89A	23	1.7	7	0.3																		
ARC-210 Equip	40	1.6	10	2.6																	·	
AN/AYK-14	35	5.7	10	1.5																		
NVD Equip	122	12.3																				
CIU/Encoder	56	15.5	10	3.1																		
																					<u> </u>	
Installation Equipment N/R	2	7.4		0.8																		Ь—
Engineering Change Orders		0.2		0.3		0.2															L	Ь—
Data		12.1		0.1		*																Ь—
Training Equipment		13.1		0.3																		Ь—
Support Equipment		35.2		8.0																		Ь
ILS		8.6		0.4							<u> </u>		<u> </u>				<u> </u>	ļ			L	Ь
Other Support		83.2		5.1		2.2		0.3														Щ_
Interim Contractor Support																						
Installation Cost	154	51.3	22		29	16.4	10	8.2														
Total Procurement		439.5		55.0		18.8		8.4														

- 1. EGI and ARC-210 Equipment quantities are funded under the Common Avionics budget.
 2. In FY00, total program includes \$31.0M as a result of a Congressional plus-up for Night Vision Devices (NVD).
 3. NVD funding reported in PB01 under Installation Kits and Installation Equipment was redirected to Installation Equipment and represents multiple NVD goggles per Install Kit.
- 4. * Totals less than 50k.
- 6. Totals may not add due to rounding.

Exhibit P-3a																									
MODELS OF SYS	TEMS AFFEC	CTED:		EA-6B Se	ries Block	89A Modif	ications			_	N	MODIFICAT	TION TITLE:	Block 89A	Avionics S	ystem Improv	ement (OSIP	42-93)							
NSTALLATION IN	FORMATION	1 :																							
METHOD OF IMP	LEMENTATIO	ON:											Commercia	al and Orga	nic Install	ations									
DMINISTRATIVE	LEADTIME:				6		Months	_			PRODUCT	TION LEAD	TIME:				12	Months							
CONTRACT DATE	ES:		FY 2002:		Dec-01		_	FY 2003:		N/A		_	FY 2004:		N/A			FY 2005:		N/A		_			
ELIVERY DATE:			FY 2002:		Dec-02			FY 2003:		N/A		_	FY 2004:		N/A		_	FY 2005:		N/A		_			
											(\$ in	Millions)													
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY:	2005	FY	2006	F\	2007	FY 2	008	FY 2	2009	To Co	mplete	TO	TAL	1
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
FY 2001 8	Prior (83) kits	3	51	49.5	20	22.7	7 12	15.5																	1
FY 2002 (9					2				5	7.9															i
FY 2003 () kits																								1
FY 2004 ()																									
FY 2005 ()																									
FY 2006 ()																									
FY 2007 ()																									
FY 2008 () FY 2009 ()																	-								
To Comple															 		 								
TOTAL	ito () kito		51	49.5	22	25.0	14	18.1		7.9															ł
Installation	Schedule																								
	FY 2001		FY 2	002				2003				2004				Y 2005			FY 2					2007	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In Out	51	5	5	6	6	4	4	3	3	2	2	1			1		1								
Out	39	6	6	5	5	6	6	4	4	3	3	2	2	1		<u> </u>									Щ.
		FY 2	000		1	EV	2009		-	Го			1												
	1	2	3	4	1	2	3	4		nplete	TO	TAI													
In	- '-		,	-		L		-	001	ipioto		92	1												
Out	-		1		l	!	+					92													
A/C inducted for						DIM 1																			

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Exhibit P-3a Individual Modification

MODIFICATION TITLE: ICAP III (OSIP 01-01)

MODELS OF SYSTEMS AFFECTED: **EA-6 Series Modifications** TYPE MODIFICATION: Safety of Flight/ Reliability

DESCRIPTION/JUSTIFICATION:

This Operational and Safety Improvement Program covers the EA-6B Improved Capabilities III (ICAP III) systems modifications to install required radar and communications receiver, displays, and connectivity improvements. Additionally, this modification removes over 70 aging and unreliable Weapons Replaceable Assemblies (WRAs). Specifically, the modification program replaces the ALQ-99 receiver System with the LR-700 receiver system, replaces the TDY-43 display system with a new COTS based display system for the Pilot and three Electronic Countermeasures Officers (ECMOs), replaces the Recorder Reproducer Set (RRS) with a new Digital Recorder, incorporates the Multi-Mission Advanced Tactical Terminal (MATT) which provides reception of datalinks such as TIBS, incorporates the USQ-113 Communication Receiver/Jammer with the Onboard System, updates mission planning for ICAP III, and provides provisions for Link-16.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Following a Full and Open Competition, Milestone II approval was received, and an EMD RDT&E development contract was awarded to the Northrop Grumman Corporation in March 1998. Following a DT/OT test period, completion of an OA and an LRIP decision, an LRIP contract will be awarded in FY03. Following completion of OPEVAL and a Milestone III decision, a full rate production contract will be awarded in FY04.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		191.0		58.0		35.3		13.0		12.9												
PROCUREMENT																						
Installation Kits																						
ICAPIII					10	64.7	11	60.7	10	53.2												
Installation Kits N/R						0.1																
Installation Equipment																						
Installation Equipment N/R								0.5		1.0												
Engineering Change Orders																						
Data						3.0		1.5		0.5												
Training Equipment	2	29.9				37.1		2.3														
Support Equipment				0.4		3.7		4.7		2.4												
ILS								1.5		1.5												
Other Support				0.5		3.9		3.7		1.3												
Interim Contractor Support																						
Installation Cost							10	14.6	11	14.5												
Total Procurement	2	29.9		0.9		112.5		89.6		74.5												

- 1. In FY00, total program increases \$29.9M as result of a Congressional Plus-up for Simulators for a trainer upgrade.
- 2. Installation costs include Repair Incident to Modification (RIM) efforts in FY06 and out.
- 3. Totals may not add due to rounding.
- 4. Total quantity of 35 does not include 2 kits procured/installed via E&MD program

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khibit P-3a																						
ODELS OF SYSTEMS AFFECTED:		EA-6B Ser	ries ICAP I	II Upgrade					M	IODIFICATI	ON TITLE	: ICAP III S	ystem Impr	ovement (OSIP 1-01)							
ISTALLATION INFORMATION:																						
ETHOD OF IMPLEMENTATION:												Co	mmercial									
MINISTRATIVE LEADTIME:					5 Months	<u>.</u>			PRODUCT	ION LEAD	ГІМЕ:				15	Months	-					
NTRACT DATES:	FY 2002:		N/A		_	FY 2003:		Feb-03		•	FY 2004	:	Feb-04		_	FY 2005:		Feb-05		=		
LIVERY DATE:	FY 2002:		N/A		_	FY 2003:		May-04		•	FY 2004	: <u></u>	May-05		_	FY 2005:		May-06		_		
									(\$ in	Millions)												
Cost:	Prior	Years	FY:	2002	FY	2003	FY 2	2004	FY 2	2005	FY	2006	FY	2007	FY:	2008	FY	2009	To Co	omplete	TC	TAL
-	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & Prior () kits																						
FY 2002 () kits																						
FY 2003 (10) kits							10	14.6														
FY 2004 (11) kits									11	14.5												
FY 2005 (10) kits																						
FY 2006 () kits																						
FY 2007 () kits																						
FY 2008 () kits																						
FY 2009 () kits																						
To Complete (4) kits																						
TOTAL							10	14.6	11	14.5												
** Aircraft are inducted one month be installation Schedule																						
FY 2001	FY 2					2003			FY 2					2005				2006			FY 2007	
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3 4
n										5	5			5	6							
Out														5	5							7
											•											
				FY	2009		T	0														
FY	2008																					
	2008	4	1	2	3	4	Com	plete	TO	TAL												
FY		4	1			4		plete 4		TAL 5												

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	MIDS (LINK 16) (OSIP 05-03)		
MODELS OF SYSTEMS AFFECTED:	EA-6 Series Modifications	TYPE MODIFICATION:	Safety of Flight/ Reliability
DESCRIPTION/JUSTIFICATION: This Operational and Safety Improvement Program	m covers integration of required flight systems and Link-16 into the EA-6B. These programs co	over procurement and installat	ion of (a) Government Off the Shelf (GOTS) Inter-cockpit

Communications System (ICS), CXP (IFF), TACAN Modification, and modification of the of Pre-Planned Product Improvement (P3I) Ethernet processor into the already installed AN/AYK-14 XN-11 and (b) previously developed and approved for production MIDS Low Volume Terminal. These modifications will allow the EA-6B aircraft to fly with new FAA mandated requirements and to participate in the Link-16 network. Items within (a) above are required prerequisites for (b) installs.

Training Systems, Publications, and Support Equipment will be procured.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The MIDS LVT is a common DoD system. The Navy will procure an existing ICS system based on requirements and via a competitive contract. The AYK-14 XN-11 Ethernet modification is currently in development.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY 2	2003	FY:	2004	FY:	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		22.1		6.6				1.8		2.4												
PROCUREMENT																						
Installation Kits																						
MIDS A KITS					14	0.4	11	0.3	10	0.3												
MIDS B KITS					14	4.9	11	3.1	10	2.9												
Installation Kits N/R																						
Installation Equipment					28	1.9	22	1.8	20	1.7												
installation equipment N/R																						
Engineering Change Orders																						
Data						0.1		0.1		0.5												
Training Equipment						*		0.5		0.4												
Support Equipment								0.1		0.1												
ILS						*		0.2		0.3												
Other Support						0.3		1.9		4.0												
Interim Contractor Support																						
Installation Cost					-		20	1.3	20	1.3								_				
Total Procurement						7.8		9.3		11.5												

Notes

- 1. Totals may not add due to rounding
- 2. * Totals less than 50K.
- 3. Total of 39 Kits include 4 which are used for labs and trainers and will not be operational aircraft.

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hibit P-3a																							
ODELS OF SYSTEMS AFFECTED:		EA-6B Se	ries					_	N	ODIFICAT	ION TITLE:	MIDS (Pr	ovisions)	(OSIP 05-0	3)								
STALLATION INFORMATION:																							
ETHOD OF IMPLEMENTATION:							FIELD											DEPOT	INSTALL				
DMINISTRATIVE LEADTIME:				3	Months	<u>.</u>			PRODUCT	TION LEAD	TIME:				12	Months	_						
ONTRACT DATES:	FY 2002:		N/A			FY 2003:		Dec-03			FY 2004:		Dec-04			FY 2005:	-	Dec-05					
LIVERY DATE:	FY 2002:		N/A		-	FY 2003:		Dec-04		•	FY 2004:		Dec-05		_	FY 2005:		Dec-06		-			
EIVERT BATE.	1 1 2002.		14//	•	-	1 1 2000.		DCC 04				-	DCC 00		-	1 1 2000.		DCC 00		-			
Cost:	Prior '	V	- FV	2002	ΕV	2003	EV.	2004	EV.	(\$ in 2005	Millions)	2006	ΓV	2007	EV.	2008	ΕV	2009	To Co	mplete	Т то	TAL	1
Cost:	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	s s	Qty	\$	
FY 2001 & Prior () KITS							,				,				,		,						1
FY 2002 () kits																							
Y 2003 (10) kits							10	0.7															
Y 2004 (11) kits									10	0.7													
FY 2005 (10) kits																							
Y 2006 (0) kits																							
FY 2007 (0) kits																							
FY 2008 (0) kits FY 2009 (0) kits	1													1	.				ļ	1	1		
O COMPLETE (4) KITS	+														ł			1	1		1		
TOTAL	0	0.0	0	0.0		0.0	10	0.7	10	0.7	0	0.0		0.0	0	0.0		1	<u> </u>	 	 		
* Aircraft are inducted one month be NOTES	fore kit delive	ery																					_
FY 2001	FY 20					2003			FY:					2005				2006				2007	
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ut			1	1	1	1				5	5			5 5	5 5					1	1	1	1
ut	1		J.	I	J.	I	l		l	l	l		ı	J	J	ĺ	l	I	ı	I	1	J.	l
	2008			FY	2009		1	Го															
EV 2	3	4	1	2	3	4		plete	TO	TAL													
1 2						1		1															
	3						1	14		34													

Exhibit P-40, BUDGET ITEM JUSTIFIC	CATION						DATE:					
										Februa	ary 2003	
APPROPRIATION/BUDGET ACTIVITY					P-1 ITEM NOME	ENCLATURE						
Aircraft Procurement, Navy/APN-5 Aircraft Modific	ations						AV-8	BB Series Modifica	tions			
Program Element for Code B Items:					Other Related P	rogram Element	3					
						-						
	Prior	ID									To Complete	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Total
QUANTITY		Α										
COST												
(In Millions)	349.3	Α	73.9	58.8	20.9	18.8	28.7	16.6	16.2	16.5	46.7	158.0

This line item funds modifications to AV-8B aircraft. The AV-8B is a single engine, single crewmember aircraft capable of vertical/short take-off and landing (V/STOL) operations. The AV-8B meets the Marine Corps requirements for a light attack aircraft to provide responsive offensive air power that can operate austere forward bases in direct support of ground forces. The overall goal of the modifications budgeted in FY 2004/2005 is to include continued incorporation of Operational and Safety improvements to the aircraft; completion of power cable MIL-W-21759 wire; continued update of TAV-8B trainer aircraft to better align with operational aircraft; continued incorporation of OSCAR; completion of the aircraft arming unit with ZRF; and incorporation of AV-8B F402-RR-408 Engine safety and operational changes.

The AV-8B active inventory (30 April 2002) consists of 4 major configurations:

- 17 two-seat TAV-8B aircraft,
- 20 DAY Attack aircraft,
- 41 NIGHT Attack Aircraft, and
- 85 Night Attack/RADAR aircraft.

In addition there are 17 undelivered aircraft that are in the Remanufacture process. The production (Remanufacture) program reduces the Day-Attack inventory by approximately 1 aircraft per month and increases the Night-Attack-Radar aircraft inventory by approximately 1 aircraft per month. Retrofit quantities of each ECP depend on the aircraft configuration type if & when the change was introduced into production.

(TOA, \$ in Millions)

				(,							To	
OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
1-91	Omnibus O&S Improvements	81.2	6.9	6.6	1.6	0.5						96.7
21-92	Auto. Target Hand-Off System	25.8	1.4									27.2
23-92	AN/ARC-210(V) EP Radio	10.4	2.0			-						0.0
34-93	Horizonal Stabilator Fatigue Impr.	18.9	0.4	0.9								0.0
3-96	KAPTON Wire Replacement	24.5	4.9	2.7	1.3							0.0
25-99	TAV-8B Performance Upgrade	89.2	12.0	2.2	2.0	0.6						0.0
18-00	SJU-4 Escape System Performance Upgrade	3.3	2.1									0.0
23-00	Litening II Pod	96.0	24.7	28.0								0.0
12-02	Open Systems Core Avionics Requirement & Pro	ecision Strike	19.5	17.0	9.9	12.5	24.1	12.4	13.1	10.1	8.7	0.0
06-03	Zero Retention Force			1.5	1.5							0.0
02-04	Engine Life Management Program				4.6	5.2	3.2	3.9	2.8	4.0	8.2	0.0
XX-06	Obsolescence Replacement						1.3	0.3	0.3	2.4	29.8	34.1
TOTAL		349.3	73.9	58.8	20.9	18.8	28.7	16.6	16.2	16.5	46.7	158.0

Note: Totals may not add due to rounding.

Exhibit P-3a	INDIVIDUA	L MODIFICATION	
MODIFICATION TITLE: OMNIBUS Operations	al & Safety Improvements (OSIP 1-91)		
MODELS OF SYSTEM AFFECTED:	TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar	TYPE MODIFICATION:	Safety

ECP-247, Emergency Battery Backup provides electrical power to the landing gear in the event of a major power failure. TAV-8B, Day, high, and FY98 \$ prior Radar.

ECP-251, Nose Wheel Steering (NWS), a Safety change, provides improved 408 engine (via RR-ECP-3759) responsiveness during critical maneuvers - TAV-8B, Night, and FY98 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved 408 engine (via RR-ECP-3759) responsiveness during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change provides an improved power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during critical maneuvers - TAV-8B, Night, APF 978 \$ prior Radar.

ECP-258, Lipial Flag Controller (FDC), a Safety change, provides improved grap control range and failure reaction power interruptions during criti Warning Radar system - Night, Radar.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NWS flight test completed Feb 98. NWS & IGVC V&V completed third quarter FY-98. DFC and JPT V&V completed second quarter FY-97. DECU V&V completed first quarter FY-98 and incorporation initiated. Initial design/V&V of ECP-217 was completed in 2nd quarter FY-90 and a replacement battery was identified in 3nd quarter FY-97. Decument for a large first quarter FY-97. Decument for a large first quarter FY-98. DECU V&V completed first quarter FY-99. Initial design/V&V of ECP-217 was completed in 2nd quarter FY-99. Installation remotification rework was completed in 3nd quarter FY-99. Installation remotification rework was completed in 4th quarter FY-99. Decument FY-99 completed 4th quarter FY-97.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY	2008	FY:	2009	To Co	omplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-217 (Emerg Battery) Kit	67	1.2																			67	1.2
ECP-246 (TAV Canopy Restraint) Kit	34	0.7																			34	0.7
ECP-248 (PLAU Resolver) Kit	102	3.7	48	1.0	2	*															152	4.7
ECP-251 (NWS) Kit	94	4.2																			94	4.2
ECP-254 (IGVC) Kit	92	0.2																			92	0.2
ECP-255R1 (DFC) Kit	141	0.3																			141	0.3
ECP-256 (JPT) Kit	192	0.1																			192	0.1
ECP-257 (DECU) Kit	99	*																			99	*
ECP-269R1 (Frame 12) Kit	11	0.2	49	0.5																	60	0.7
ECP-271 (100%LERX) Kit	53	0.2																			53	0.2
ECP-278 (RWR Cable) Kit	136	0.8																			136	3.0
ECP-300 Landing Gear Control Handle	184														-						184	3.0
C1.0 DSM Modules Kit GEC-11 (CEDE Unit) Kit	154 181	1.2 0.1																			154 181	1.2
GEC-11 (CEDE Unit) Kit	43	2.8													1						43	2.8
L580 (GTS/APU Duct) Kit	43	2.8													1						43	2.8
L660 (GTS/APU Protect Unit) Kit	329	0.9													1						329	0.9
PRIOR YEARS	528	8.3													1						528	8.3
Installation Kits N/R	320	10.2		0.8																	0	10.5
Installation Equipment	+	10.2		0.0											1						0	10.:
															-							
ECP-248 (PLAU) Equip	102	0.2	48	0.1	2										-						152	0.3
ECP-255R1 (DFC) Equip	161	5.4																			161	5.4
ECP-254/RR-3759 (IGVC) Equip	100	13.6			21	2.6															121	16.3
ECP-296 (ALR-67 Antennas)	178	0.6																			178	0.6
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.8		*																		1.8
Training Equipment		7.8		*																		7.8
Support Equipment		2.3																				2.3
ILS		0.1																				0.1
Other Support		5.9		0.3		1.2		0.1														7.4
Interim Contractor Support		0.0		0.0				J. 1														1.5
Installation Cost	1	7.6		4.2		2.8		1.4		0.5			1									16.
TOTAL PROCUREMENT	1	81.2	 	6.9	 	6.6	 	1.6		0.5					1				 			96.

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 50K Exhibit P-3a

Exhibit P-3a																								
MODELS OF S	YSTEMS AI	FFECTED:		TAV-8B, A	V-8B Da	ay, AV-8I	3 Night,	AV-8B N	ight/Rac	lar		-	MODI	FICATIO	N TITLE:	Operation	nal & Sa	fety Impr	rovement l	Modificati	ions (01-	91)		
INSTALLATION	I INFORMA	TION:		This reflect				ns begun	in FY-94.	Quantitie	es will no	t match K	it Procure	ement line	due to "	O" Level I	nstalls, C	Contracto	r Warranty	Kits (EC	P-271 & E	ECP-269R	1)	
METHOD OF I	MPLEMENT	ATION:		Installation	will be a	accomplis	shed by h	Naval Avia	ition Dep	ot drive in	n modific	ation.												
ADMINISTRAT	IVE LEADTI	IME:			It varies	with each	ECP	Months			PROD	JCTION L	_EADTIM	E:	It varies	with each	ECP	Months	3					
CONTRACT DA	ATES:			FY 2002		Multiple		_		FY 2003	3	Multiple		-	FY 2004	·	Multiple		-	FY 2005	5	Multiple		_
DELIVERY DA	ΓE:			FY 2002		Multiple		_		FY 2003	3	Multiple		_	FY 2004	·	Multiple		_	FY 2005	5	Multiple		_
														(\$ in Mill	ions)									
	Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY:	2009	To C	omplete	TC	TAL
			Qty	\$	Qty	\$	1997	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & I		kits	893	7.6	198	4.2	142	2.2																
FY 2002 (97							42	0.6	50	1.4	5	0.4	<u> </u>						ļ					
FY 2003 (2											2	0.1			-	1			1					
FY 2004 ()																1			1			-		
FY 2005 ()																								
FY 2007 ()																			1					
FY 2008 ()																			1					
FY 2009 () I																								
To Complet																								
TOTAL			893	7.6	198	4.2	2 184	1 2.	50	1.4	1 7	0.5	5											
Installation S	chedule																							
	FY 2001		FY 2	2002			FY	2003			FY	2004			FY	2005				FY	2006	_		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	893	50	49	50	49	46	46	46	46	13	12	12	13	2	3	2								
Out	893	50	49	50	49	46	46	46	46	13	12	12	13	2	3	2	<u> </u>					j		
					1								r		_		7							
	-	FY 20					FY2008		1		FY 200		1	То										
	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	_	OTAL	-							
In .					1		-		1		1	1				1332								
Out															1	1332	J							

Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE: Automatic Target Ha	nd-Off System (ATHS) (OSIP 21-92)			
MODELS OF SYSTEM AFFECTED:	AV-8B Night, AV-8B Night/Radar		TYPE MODIFICATION:	Upgrade

ECP-180 incorporates the ATHS, i.e., a digital data communications device which utilizes preformatted messages to communicate with standard USMC, USAF, and US Army digital communication supports improved performance in the areas of: (1) increased threat capabilities, (2) ground element transition to digital communications, (3) increased mission effectiveness and decreased pilot workload, (4) interportability with USAF, USN, USMC, and US Army digital communications systems and (5) provide for eventual growth capability into voice activated crew station systems. This modification was introduced in production in Fy97 and is being retrofitted in all IAV-8B Night and AV-8B Night and

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ATHS is currently installed in the US Army OH-58 and AH-64 Apache helicopters and has been in full production for several years. The ATHS was designed for MIL-E-5400, Class I, helicopter applications. Design of the modification required to bring ATHS up to Class II TACAIR standards and to increase the data rate is complete. Flight demonstration was completed in an AV-8B in November 1999. Hardware qualification testing was completed in November 1994. A FOFAC (Forward Observer Forward Air Controller) demonstration with MAWTS-1 (Marine Aviation Weapons & Tactics Squadron) occurred in February 1995. Preliminary operational testing was conducted in November 1995. Final DT/OT confirmed the software integration into the combined Night Attack & Radar Operational Flight Program released in June, 1997.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY:	2002	FY	2003	FY	2004	FY	2005	FY 2	006	FY	2007	FY	2008	FY	2009	To Co	mplete	T	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-180 (ATHS) Kit	90	3.8																			90	3.8
Installation Kits N/R		8.5																				8.5
Installation Equipment																						
ECP-180 (ATHS) Equip	90	3.9																			90	3.9
Installation Equipment N/R		5.7																				5.7
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		0.2		*																		0.2
Interim Contractor Support																						
Installation Cost	55	3.6	29	1.4																	84	5.0
TOTAL PROCUREMENT		25.8		1.4																		27.2

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a																								
MODELS OF S	YSTEMS AF	FECTED:		AV-8B N	light, AV-	8B Night/F	Radar			-	МС	DDIFICAT	ION TITLE:	Automati	ic Target F	land-Off Sy	stem (A1	THS) (OSI	P 21-92)					
NSTALLATION	I INFORMA	TION:																						
METHOD OF I	MPLEMENT.	ATION:		Installatio	n will be ac	complished	by Naval	Aviation De	epot by dr	ive-in mod.														
ADMINISTRAT	IVE LEADTI	ME:			2	2	Months	<u>.</u>			PRODU	JCTION L	EADTIME:			15		Months						
CONTRACT DA	ATES:			FY 2002	2			_		FY 2003				_		FY 2004						FY 2005	5	
DELIVERY DA	ΓE:			FY 2002	2			_		FY 2003				_										
	Cost:		Prior	or Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL																				
	COSI.		Qty	or Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL \$ Qty \$ Qt																				
FY 2001 &	PY (84) kits		55	Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL																				
FY 2002 ()	kits																							
FY 2003 ()	kits																							
FY 2004 (kits																							
FY 2005 ()						-									ļ									
FY 2006 ()					1										1									
FY 2007 ()																								
FY 2008 ()					1																			
FY 2009 () k To Complet																								
TOTAL	.c () iiis		55	3.6	6 29	9 1.4																		
Note: 6 kits	,	contractor	for "Sea I	Dragon" ı	mission.																			
	FY 2001		FY 2	2002			FY	2003			FY	2004			FY	2005				FY	2006	_		
-	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	55	2	10	10	7																			
Out	55	2	10	10	7																	j		
		=			I	=			I				_		T		l							
	1	FY 20	3	4	1	FY 2	3	4	1	2	2009	4	Com		TC	TAL								
In	 		3	4	 		<u> </u>	4	<u> </u>		<u> </u>	4	Com	JIELE		1 AL 34								
Out						1										34								
Cut						1				1							l							

Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE: AN/ARC-210 E	lectronic Protection (EP) Combination Radio (OSIP 23-92)			
MODELS OF SYSTEM AFFECTED:	AV-8B Night, AV-8B Night/Radar		TYPE MODIFICATION:	Upgrade

ECP-240 incorporates the AN/ARC-210, i.e., a combination UHF/VHF AM/FM jam-resistant radio developed as common avionics to allow for EP inter-operability with the Air Force, Army, and NATO, into the AV-8B. The radio provides dual UHF capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK and the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. This modification was introduced in production in FY97 and is being retrofitted in all AV-8B Night and AV-8B

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The non-recurring engineering integration contract to MCAIR was awarded in June 1994. Demonstration/Validation began in February 1996 and was completed September 1996 in conjunction with the combined Night Attack/Radar Operational Flight Program (C1.0) released in May 1997. Incorporation of the ARC-210 HAVEQUICK and SINCGARS capability will be completed with the OC1.2 software release in FY 2003.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY 2	2006	FY	2007	FY	2008	FY 2	2009	To Co	mplete	ТО	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-240 (ARC-210) Kit	90	0.9																				
Installation Kits N/R		2.8																				
Installation Equipment		0.4																				
ECP-289 (ACNIP) Equip			140	0.3																		
Installation Equipment N/R		2.7																				
Engineering Change Orders																						
Data		0.3		0.2																		
Training Equipment		0.8		0.1																		
Support Equipment		0.2																				
ILS																						
Other Support				0.2																		
Interim Contractor Support																						
Installation Cost	54	2.4	29	1.2																		
TOTAL PROCUREMENT		10.4		2.0																		

Notes: ECP-289 HAVEQUICK and SINCGARS will be installed concurrent with OSCAR and installations costs will be incurred under OSIP 1202 Open Systems Core Avionics Requirement & Precision Strike

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a																									
MODELS OF SY	STEMS AF	FECTED:																							
				AV-8B N	ight, AV-	8B Night/	/Radar				МО	DIFICATION	ON TITLE:	AN/ARC-2	210 Electr	onic Protec	ction (EP)	Combinati	on Radio (0	OSIP 23-92)				
INSTALLATION	INFORMAT	ΓΙΟΝ:																							
METHOD OF IM	DI EMENIT	ATION:																							
INIETTIOD OF IIII	I ELIVILIATA	ATION.		Installation	by Naval	Aviation D	epot (NAE	DEP) Drive-	in Mod (2	radios per	acft)														
ADMINISTRATIV	/E LEADTII	ME:			3		Months	<u>:</u>			PRODU	JCTION L	EADTIME:			16		Months							
				=:/						= 1 /															
CONTRACT DAT	IES:			FY 2002				=		FY 2003				-		FY 2004							FY 2005		
DELIVERY DATE	E.			EV 2002						EV 2003						FY 2004							EY 2005		
DELIVER DATE				1 1 2002				=		1 1 2000				-		1 1 2004							1 1 2000		
										(\$	in Millio	ns)													
																			_		_				
,	Cost:			Years		2002		2003		2004		2005		2006		2007		2008		2009		mplete		TAL	
=/			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & P			54	2.4	29	1.2																			
FY 2002 () I																									
FY 2004 () I																									
FY 2005 ()																									
FY 2006 () I	kits																								
FY 2007 () I	kits																								
FY 2008 () ki																									
FY 2009 () ki																									
To Complete	() kits		54	2.4	29	1.2																			
TOTAL			54	2.4	29	1.2	<u> </u>																		
Installation Sc	hedule																								
_																									
	FY 2001		FY 2	2002			FY	2003			FY	2004			FY:	2005			1	FY 2	006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In O	54	2	10	10	7																				
Out	54	2	10	10	7		l		l						l				l						
ſ		FY 20	07			EV	2008			FV	2009		т	-o			Ī								
ļ	1	2	3	4	1	2	3	4	1	2	3	4		plete	тс	TAL									
ln															1	83									
Out	-															83									

Exhibit P-3a	INDIVID	JAL MODIFICATION		
MODIFICATION TITLE: Horizontal Stabi	lator Fatigue Improvements (OSIP 34-93)			
MODELS OF SYSTEM AFFECTED:	TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar	TYPE MODIFICATION:	Structural	

Between November 1992 and February 1993 T/AV-8B operators reported 35 incidents of cracking in stabilator center section aluminum alloy ribs and spars. McDonnell Douglas Aerospace Corp. (MDA) has defined a new stabilator center section that changes the structural material to titanium alloy, provides selective material gage increases and changes stabilator pivot fittings from titanium alloy to steel. These changes were incorporated in FY 1991 production aircraft Cum 241 and subsequent. This OSIP provides for the design, test and procurement of an ECP-243R1 airframe change kit for retrofit of the new stabilator center section in all 223 in-service T/AV-8B aircraft and installation into all spare stabilators.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development is not required. Basic engineering and design are complete. Contractor laboratory testing and Contractor/Navy flight testing of the modified stabilator was completed in September 1994. Validation and verification of a production representative aircraft change kit and technical directive by the NADEP was completed in May 1993.

FINANCIAL PLAN (TOA, \$ in Millions):

INANCIAL PLAN (TOA, \$ IN MIIIIONS).																						
	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY 2	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-243R1 (Horiz Stab) Kit	222	12.3																				
Installation Kits N/R																						
Installation Equipment																						
ECP-243R1 (Horiz Stab) Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		0.2																				
Interim Contractor Support									, and the second													,
Installation Cost	234	6.4	3	0.4	12	0.9																
TOTAL PROCUREMENT		18.9		0.4		0.9	•					,										

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a																								
MODELS OF SY	'STEMS AF	FECTED:	•	TAV-8B,	AV-8B I	Day, AV-8	B Night,	AV-8B N	ight/Rac	lar		-	MOD	IFICATIO	N TITLE:	HORIZON	ITAL STAI	BILATOR F	FATIGUE IN	MPROVEM	ENTS (OS	SIP 34-93)		
NSTALLATION	INFORMAT	ΓΙΟΝ:																						
METHOD OF IM	PLEMENTA	ATION:		The first	kit was p	provided a	t no cost	to the go	vernmer	t. The ins	stallation	is being a	ccomplis	shed by N	Navy Driv	/e-in Modi	fication.							
ADMINISTRATI	/E LEADTII	ME:			3		Months	_			PRODU	ICTION L	EADTIM	Ε:		8		Months	<u>i</u>					
CONTRACT DA	TES:			FY 2002				-		FY 2003	s			-		FY 2004						-	FY 2005	
DELIVERY DAT	E:			FY 2002				-		FY 2003	B			-		FY 2004						-	FY 2005	i
												(5	in Millio	ns)										
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	TC	DTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & F		3	234	6.4	3	0.4	12	0.9																
FY 2002 ()																								
FY 2003 ()																								
FY 2004 ()																							-	
FY 2005 ()																							-	
FY 2006 ()																								
FY 2007 ()																								
FY 2008 () k																								
FY 2009 () ki																								
To Complete	() kits																							
TOTAL	0.00		234	6.4	3	0.4	12	0.9																
**NOTE: Inst	allation incli	udes 27 spa	re stabila	ators.																				
Installation Sc	hedule																							
ĺ	FY 2001		FY 20	002			FY	2003			FY	2004			FY	2005				FY 2	006	-		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In	234	1		1	1	3	3	3	3													1		
Out	234	1		1	1	3	3	3	3													[
																						-		
		FY 200)7			FY	2008			FY	2009			То			1							
	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	TO	OTAL]							
																249	1							
In																								

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITLE: KAPTON Wire Repla	acement (OSIP 3-96)		
MODELS OF SYSTEM AFFECTED:	TAV-8B	TYPE MODIFICATION:	Safety

The Kapton Wiring Replacement (ECP-277) S,R&M modification is required to replace the MIL-W-81381 (KAPTON) wiring with MIL-W-22759 (TEFZEL) wiring in TAV-8B aircraft delivered prior to September 1989. TAV-8B's with KAPTON (MIL-W-81381) insulated wire suffer from high failure rate due to frequent incidents of chafing resulting in wire fires. The KAPTON (MIL-W-81381) wired airplanes also require frequent and costly maintenance actions to continue flying. Replacement of this wiring is expected to improve aircraft readiness. This modification was introduced in production in FY 1989 TAV-8B aircraft (cum 16 & subsequent wiring and replaced it within gradient TEFZEL wiring which is much more resistant to chafe and fire. This modification will be retrofitted in 12 of the 13 TAV-8B aircraft (cum 15 & below) currently in the inventory.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification was designed and incorporated in all production baseline aircraft delivered after September 1989. AFP not applicable. An installation validation commenced July 2000. Installation vertication was completed on one aircraft Aug 2001.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY:	2005	FY 2	2006	FY	2007	FY	2008	FY 2	2009	To C	omplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 277 (Kapton Wire) Kit	12	16.3																				
Installation Kits N/R		2.2																				l
Installation Equipment																						
ECP 277 (Kapton Wire) Equip																						
Installation Equipment N/R				0.8																		
Engineering Change Orders																						L
Data		0.7																				
Training Equipment																						
Support Equipment																						<u> </u>
ILS		•																				
Other Support		0.8		*																		
Interim Contractor Support																						
Installation Cost	4	4.4	2	4.0	4	2.7	2	1.3														
TOTAL PROCUREMENT		24.5		4.9		2.7		1.3														ı

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a MODELS OF SYSTEMS AFFEC	TED:																							
		-	TAV-8B						_	MOE	IFICATION	ON TITLE:	KAPTON	Wire Repl	acement (OSIP 3-9	6)							
INSTALLATION INFORMATION	:																							
METHOD OF IMPLEMENTATIO	N:	4	AFC insta	allation w	ill be acco	mplished	l by Naval	Aviation	Depot Driv	e-in Mod.														
ADMINISTRATIVE LEADTIME:		·-		5	i .	Months	=			PRODU	ICTION I	LEADTIME	:	-	12		Months	<u>-</u>						
CONTRACT DATES:			FY 2002				_		FY 2003	·					FY 2004						_	FY 2005	i	
DELIVERY DATE:			FY 2002				_		FY 2003	·					FY 2004						_	FY 2005	i	
											(\$ in Mil	llions)												
Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY:	2005	FY 2	2006	FY	2007	FY	2008	FY 2	2009	To C	Complete	TO	OTAL]
		Qty	Prior Years																					
FY 2001 & PY (12) kits		4	4.4	2	4.0	4	2.7	2	1.3															
FY 2002 () kits																								
FY 2003 () kits																								ł
FY 2004 () kits					<u> </u>		ļ																	
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
FY 2008 () kits						1		1																1
FY 2009 () kits																						1		
To Complete () kits TOTAL		4	4.4	,	4.0	1	2.7	7 7	4.5															
Installation Schedule																•				•				i
FY 2001		FY 20	002			FY	2003			FY	2004			FY 2	2005				FY 2	2006	-			
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4]			
In 4			2		1	1		2	1	1														
Out 4			2		1	1		2	1	1]			
	FY 20	07				2008	1		FY:	2009		Т	O											
1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL									
In										ļ					12									

Exhibit P-3a	INDIVIDUAL MODIFICAT		
MODIFICATION TITLE: TAV-8B Performance Upgrade (OSIP 25-99)		
MODELS OF SYSTEM AFFECTED: TAV-8B		TYPE MODIFICATION:	Upgrade

Update all AV-8B Trainer aircraft to better align with operational aircraft by incorporating Night Vision Goggle (NVG) lighting and the -408 engine. ECP-276 (NVG lighting) incorporation will allow for training of fleet pilots in NVG tactical flight operations during initial AV-8B flight training under the supervision of an instructor pilot. Currently, all NVG training is performed in the operational squadrons in single piloted aircraft at error completion of initial allow for training of fleet pilots in NVG proficiency and safet training entirement, all NVG training is performed in the operational squadron vision of the current -406A/B engines. ECP-275 (+048 Engines) provisions incorporation will allow expansion or VSTOL training time and increase the vertical landing performance safety entire completion or initial and so the current -406A/B engines. ECP-275 (+048 Engines) provisions incorporation will allow expansion or VSTOL training time and increase the vertical landing performance safety entire and fleet Night/Radar aircraft will also be enhanced. Trainer aircraft cum T1 fleet and above have -408 provisions incorporated and require engines only. Trainer aircraft cum T1 through T15 require both -408 engine provision kits and -408 engines. ECP-275 will be installed on 12 T15 & below aircraft currently in the inventory. ECP-306 installs the Throttle Grip and Stick. Due to the upgraded engine, Frame 12 stiffners will be installed on all TAV-8B aircraft concurrently with ECP-275.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Initial design of the NVG and -408A aircraft kits began in November 1998. Engine provisioning software development (ECP-288) was initiated in November 1998.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Ye		FY	2002	FY	2003	FY	2004	FY	2005	FY 2	2006	FY	2007	FY 2008		FY 2009		To Complete		TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP-275, -408 Engine Kit (T2-15)	12	3.8																				
IAFC-398, Fr.12 Kit (T2-15)	12	0.5																				<u> </u>
ECP-276, NVG Ltg. Kit (T2-24)	17	4.4																				
AFC-273, Kit (T2-24)	20	0.1																				
Installation Kits N/R		2.6																				1
Installation Equipment																						
-408 Engines, ECP-275 (T2-15)	12	41.7																				
-408 Engines, ECP-275 (T16-24)	6	20.4																				
Engine Monitoring Unit, ECP-275 (20	1.7																				
Stby. Altimeter, ECP-276 (T2-24)	36	0.4																				
Eng. Perf. Ind. (EPI), ECP-276 (T2	42	0.4																				
CDC/CDM, ECP-276 (T2-24)	51	0.8																				
ACNIP, ECP-276 (T2-24)	18	0.1																				
Fuel Qty Ind., ECP-276 (T2-24)	26	0.1																				
Airspeed Ind., ECP-276 (T2-24)	52	0.1																				1
ECP-288 Mission Computer (T2-24	1		16	1.8																		
ECP-288 Warfare Mgmt Computer	1	0.5	16	3.6																		ļ
ECP-291 NA Disp Computers (T 2-	-24)		17	2.8																		ļ
ECP-291 Throttle Grip & Stick(T2-2	24)		17	0.5																		
Installation Equipment N/R				1.5																		<u> </u>
Engineering Change Orders																						ļ
Data		2.2																				ļ
Training Equipment		0.2																				ļ
Support Equipment		0.1		0.3																		ļ
ILS																						
Other Support		8.4		0.4		0.4																ļ
Interim Contractor Support																						
Installation Cost	7	0.6	14	1.0	22	1.8	15	2.0	3	0.6												L
TOTAL PROCUREMENT		89.2		12.0		2.2		2.0		0.6												Ш

Notes

- Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a																									,
MODELS OF SY	/STEMS AF	FECTED:		TAV-8B							МО	DIFICATI	ON TITLE:	TAV-8B	Performan	ce Upgrad	le (OSIP	25-99)							
NSTALLATION	INFORMAT	ION:																							
METHOD OF IM	IPLEMENT <i>A</i>	ATION:		AFC inst	allation	will be acc	complish	ed by Nav	al Aviatio	on Depot	Orive-in	Mod. ECF	9-275 will be	e installed	concurr	ent with E	CP-276 o	n aircraft	cum T-15	& below.					
ADMINISTRATI	VE LEADTIN	ИЕ :			Varies 1	for each E0	CP				PRODU	JCTION L	EADTIME.	:		Varies for	each EC	Р	-						
CONTRACT DA	TES:			FY 2002		Various		•		FY 2003				-		FY 2004						=	FY 2005		
DELIVERY DAT	E:		FY 2002 Various						FY 2003				-		FY 2004						-	FY 2005	5		
		(\$ in Millions)																							
	Cost:			Years		2002		2003		2004		2005		2006		2007		2008		2009		omplete		OTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & P			7	0.6	14	1.0	22	1.8	15	2.0	3	0.6													
FY 2002 ()																									
FY 2003 ()																									
FY 2005 ()																									
FY 2006 ()																									
FY 2007 ()																									
FY 2008 () ki																									
FY 2009 () ki																									
To Complete	e () kits																								
TOTAL			7	0.6	14	1.0	22	1.8	15	2.0	3	0.6													
Installation Sc	hedule													1			,					_			
	FY 2001		FY 200					2003	1			2004	1			2005				FY 2		7			
	& Prior	11	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4			
In Out	7	3	4	3	4	5 5	6	5	6	2	5 5	4	4		3							1			
Out	/	3	4	3	4	5	ь	5	б	2	5	4	4	I	3					l		J			
,		FY 200	7		1	EV	2008			EV	2009		Т т	ō	1		1								
	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	тс	TAL									
In					Ė		J	,	<u> </u>	_			Com	pioto		31	1								
				1								-					1								

Exhibit P-3a	INDIVIDUAL MODIFICATION

MODIFICATION TITLE: SJU-4 Escape System Performance Upgrade (OSIP 18-00)

MODELS OF SYSTEM AFFECTED: All T/AV-8B Aircraft (TAV-8B, AV-8B Day, AV-8B Night, AV-8B Radar). TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The AV-8B escape system was originally designed to provide safe escape for aircrew within the unique flight regime of the Harrier aircraft. At the time of development an increase in physiological loads on the aircrew at moderate and high speed ejections were traded-off for higher ejection performance at low altitude and adverse attitude. A number of aircrew have sustained severe neck injuries and a fatality have resulted from parachute opening shock and poor body position/alignment at moderate and high speed ejections. Warnings and restrictions have been placed on the escape system until design deficiencies have been corrected. This modification supports an escape system upgrade program to investigate, design, develop, and test the adaptation of current escape technologies to reduce the risk of injury to aircrew for the entire escape envelope. Trade studies have identified the most promising mature escape technologies, including a new restraint, parachute, and improved speed sensing.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NAVAIR completed trade studies in October 98. Program initiation, receipt of R&D funding, and contract award occurred May 99. Component/subsystem testing, August 99. FY00 procurement of 3 units will be used for validation & verification purposes. DT-I commenced in Jun 00 and DT-II completed in March 01.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Co	mplete	TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E ELEMENT# 0604264N																						
PROCUREMENT																						
Installation Kits																						
ECP E4631-01-3 Helmet	800	0.5																				
ECP 16416 Parachute	249	1.0																				
ECP 303 AAS	35	0.3	214	1.8																		
Installation Kits N/R		0.2		0.1																		
Installation Equipment																						
Installation Equipment N/R		*																				
Engineering Change Orders																						
Data		0.6		*																		
Training Equipment		0.1																				
Support Equipment																						
ILS		0.5		0.2																		
Other Support		0.2																				
Interim Contractor Support																						
Installation Cost																						
TOTAL PROCUREMENT		3.3		2.1																		

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	LITENING II Pod (23-00)			
MODELS OF SYSTEM AFFECTED:			TYPE MODIFICATION:	Upgrade
DESCRIPTION/JUSTIFICATION:				

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Targeting Pod is a non developmental item and has been in full production for several years. It was a winner of a targeting FLIR competition for the Air Force Reserve and Air National Guard and put in service on their F-16s 2nd Qtr FY-00. The design, integration, and testing of the Targeting Pod for the AV-8B was done on the Radar and /or Night Attack during 3rd Qtr FY-00. The integration will utilize: existing aircraft software, a weapons station adapter, and Targeting Pod interface software. PEO(A) had approved the acquisition strategy to acquire the pods through an existing USAF contract and provided a targeting pod capability to the Fleet in 1st Qtr FY-02. Further integration to utilize targeting information from the Litening Pod to be used in the aircraft targeting solution, is being carried out under the H20 OFP upgrade program.

The system will integrate and procure an external targeting pod that includes an Infrared (IR) and low-light TV targeting device capable of detecting, classifying, auto-tracking, and designating air-to-surface targets. The system will support first-pass autonomous delivery of conventional, precision guided, and accurate munitions to include Laser Maverick, GBU-12 and GBU-16. The system will provide targeting capabilities for the AV-8B fleet of Night Attack and Radar/Night attack aircraft through the end of it's service life. The addition of the LITENING II Targeting Pod gives the AV-8B (Night and Radar) the capability to perform precision targeting. Congressional adds of FY01 \$80M and FY02 \$24.7M to procure additional Litening II Precision Targeting Pods.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY 2	2002	FY 2	2003	FY	2004	FY:	2005	FY :	2006	FY:	2007	FY 2	2008	FY:	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits, ECP-tbd Pod Provisio	138	0.3																				
POD Retrofit Kits					47	3.9																
Installation Kits N/R		1.2																				
Installation Equipment, Pods	56	72.7	10	13.0	10	12.3																
Installation Equipment N/R		6.7																				
Engineering Change Orders		0.1																				
Data		0.4				0.2																
Training Equipment		3.5				0.1																
Support Equipment		1.1				0.1																
ILS		0.1																				
Other Support		10.0		11.7		11.4																
Interim Contractor Support																						<u> </u>
Installation Cost									, and the second													
TOTAL PROCUREMENT		96.0		24.7		28.0																

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a		INDIVIDUAL MODIFICATION				
MODIFICATION TITLE: Open Systems Core	e Avionics Requirement (OSCAR) and Precision Strike (12-02)					
MODELS OF SYSTEM AFFECTED:	AV-8B Night, AV-8B Night/Radar	TYPE MODIFICATIO	N:	Upgrade	 	

DESCRIPTION/JUSTIFICATION:

The current AV-8B avionics do not have sufficient processor throughput and memory to support planned system upgrades. The OSCAR program will update the existing, obsolete avionics using Commercial Off the Shelf (COTS) open system architecture hardware that runs object-oriented design (OOD) and higher order language (HOL) software. This OSIP supports the procurement and retrofit installation of the Mila-STD 1760 wiring. Installation of the Mila-STD-17600 wiring to support new weapons will require the addition of wiring to the fuselage, additional circuit breaks, and a new relay panel. Modifications to the wing and pylon wiring are also part of this modification. Subsequent system upgrades based on the OSCAR system will be a continuing effort to integrate precision weapons suitable for delivery from the Harrier platform, as well as the internal and pod mounted systems necessary to effect guidance and designation are essential to the continued relevance of the AV-8B to the war fighter. ECP-289 HAVOULOKS/INSCARS will be installed concurrent with OSCAR.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This system upgrade (ECP 270R2, ECP 285 is the production incorporation of the MSC, WMC and software being developed under the OSCAR program. The OSCAR program involves development, integration and operational test of the new MSC, WMC, and Operational Flight Program software that will use the MK-83 Joint Direct Attack Munitions on the AV-8B as well as full integration of Havequick/SINCGARS. LRIP decision was approved Feb 02. DT completed 4th quarter FY02. OPEVAL for OSCAR is scheduled for completion 4th qtr 03. Initial operating capability is scheduled for Sept 04.

FINANCIAL PLAN (TOA, \$ in Millions):

FINANCIAL PLAN (TOA, \$ IN WIIIIONS).				_				_								_					
	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	TC	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E ELEMENT# 0604264N																						
PROCUREMENT																						
Installation Kits																						
MIL-STD-1760 Wiring Kits					10	2.1	6	1.3	15	3.3												
Installation Kits N/R																						
Installation Equipment																						
OSCAR Computers			52	11.1	44	7.7	24	5.4	24	5.4												
Installation Equipment N/R				3.3																		
Engineering Change Orders																						
Data				1.5		*																
Training Equipment				0.6		5.3		2.0		1.7												
Support Equipment				0.2		0.3																
ILS						*		0.1														
Other Support				2.8		1.3		0.2		0.5												
Interim Contractor Support																						
Installation Cost					18	0.2	17	0.9	35	1.6												
TOTAL PROCUREMENT				19.5		17.0		9.9		12.5												

Notes: ECP-289 HAVEQUICK and SINCGARS will be installed concurrent with OSCAR and installations costs will be incurred under OSIP 1202 Open Systems Core Avionics Requirement & Precision Strike

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 50K

Exhibit P-3a

AV-8B Night, AV-8B Night/Radar MODIFICATION TITLE: Open Systems Core Avionics Requirement (OSCAR) and Precision Strike (12-02) INSTALLATION INFORMATION: METHOD OF IMPLEMENTATION: AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod. This install schedule is for MIL-STD 1760 installs only ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 15 Months CONTRACT DATES: FY 2002 FY 2003 Feb-03 FY 2004 Dec-04 FY 2005 Oct-05	
ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 15 Months	
CONTRACT DATES: FY 2002 FY 2003 Feb-03 FY 2004 Dec-04 FY 2005 Oct-05	
	_
DELIVERY DATE: FY 2002 FY 2003 May-04 FY 2004 Mar-05 FY 2005 Jan-06	_
(\$ in Millions)	
	TOTAL
Oty \$ Oty \$<	\$
FY 2001 & PY () kits	
FY 2002 (136) kits 18 0.2 12 0.7 27 1.2	
FY 2003 (10) kits 5 0.3 5 0.3	
FY 2004 (6) kits 3 * FY 2005 (15) kits	
F1 2000 (10) Nts	
To Complete (58) kits	
TOTAL 18 0.2 17 0.9 35 1.6	
FY02 buys of ECP-289 HAVQUICK and SINCGARS were procured in OSIP 2392, installation will be concurrent with OSCAR Installation Schedule	
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006	
& Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 3 4 1 3 5 5 5 6 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7	
In 6 6 6 6 3 4 5 5 5 10 10 10	
Out 6 6 6 6 3 4 5 5 5 10 10 10	
	
FY 2007 FY 2008 FY 2009 To	
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL	
ln 164 234	
Out 164 234	

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Zero Retention Force (06-03)

MODELS OF SYSTEM AFFECTED: All T/AV-8B Aircraft (TAV-8B, AV-8B Night, AV-8B Radar). TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The purpose of the arming unit is to control the retention or release of an arming wire attached to the weapon. The ZRF enables reliability of flight selection of firing and weapon mode operations. The current BRU-36 arming unit (AU) has a history of problems and is not up to the standards of the AU's used on newer airframes. The Zero Retention Force Solenoid will be interchangeable with the SA-122 on all AV-8B models to provide reliable and dependable operation for in-flight selectability safe ordinance jettison.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN (TOA, \$ in Millions):

	Prio	r Years	FY 2	2002	FY 2	2003	FY	2004	FY:	2005	FY:	2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	TOT	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E ELEMENT# 0604214N																						Ī
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment					65	1.5	65	1.5														Ī
Installation Equipment N/R																						·
Engineering Change Orders																						Ī
Data																						Ī
Training Equipment																						Ī
Support Equipment																						1
ILS																						
Other Support																						1
Interim Contractor Support																						
Installation Cost																						1
TOTAL PROCUREMENT						1.5		1.5														

Notes:

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	Engine Life Management Program (OSIP 02-04)		
MODELS OF SYSTEMS AFFECTED:	F402-RR-408	TYPE MODIFICATION:	Safety

DESCRIPTION/JUSTIFICATION:
The AV-8B is a single engine aircraft with unique capabilities. The VSTOL environment is very unforgiving and allows no tolerance for engine problems. In the past, the Pegasus F402 has suffered from a less than optimal safety and reliability record demonstrating a 12.11 mishap (Class A) per 100,000 flight hours compared to a historical average rate of less than 2.0 over the rest of the Navy and Marine Corps in recent years. The Engine Life Management Program is a comprehensive program to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine. Funding provided is to incorporate Engineering Change Proposals to increase safety of flight and operational readiness of the F402-RR-408 Engine.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Engine Life Management Program was developed in October 2000. The purpose of the program is to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine. The ELMP is comprised of several Engineering Project Description investigations and a series of bi-annual Accelerated Simulated Mission Endurance Tests (ASMET). The Engineering Project Description (IPD) investigations and ASMET test provide data points for existing Fleet problems and predict future engineering issues with the F402-RR-408. The EPD investigations are conducted annually and ASMET test is scheduled to begin 20/04 and complete 4Q/02. Engineering Change Proposals resulting from Engineering Investigations and ASMET test with the researched and third redevelopment for formalized under the development program and incorporated into the F402-RR-408 via OSIP 02-

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	F١	2007	F١	2008	FY	2009	To C	omplete	1	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP EPD Kit							58	3.0	33	1.7												
ECP ASMET04 Kit									138	2.6												
ECP ASMET06 Kit																						
ECP 3763																						
Various ECP																						
Installation Kits N/R																						
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support								1.6		0.9												
Interim Contractor Support																						
Installation Cost																						
Total Procurement			Î					4.6		5.2		0.0		0.0		0.0		0.0			1	

1. Totals may not add due to rounding

2. Retrofit to be accomplished via attrition and O-Level Installation

Exhibit P-40, BUDGET ITEM	JUSTIFICATIO	ON							DATE:			
										Febru	ary 2003	
APPROPRIATION/BUDGET ACTIV	ITY						P-1 ITEM NON	MENCLATURE				
Aircraft Procurement, Navy/AP	N-5 Aircraft Mo	difications							F-14 Series	Modification	ns	
Program Element for Code B Items:							Other Relat	ed Program	Elements			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		А										0
COST (In Millions)	807.3	А	9.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	820.9

This line item funds modifications to the F-14 aircraft. The F-14 is a twin-engine, two seat, variable sweep, supersonic strike fighter capable of engaging multiple targets simultaneously at altitudes from sea level to 80,000 feet. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

				(1011) \$ 111 .	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						То	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Total</u>
152-83	Structural Improvements	354.6	7.0	3.6								365.2
42-95	Precision Strike Program	397.3	2.5	0.0								399.8
20-96	F-14 Critical Systems & Component Moderni	55.4	0.4	0.0								55.8
	Total	807.3	9.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	820.9

Note: Totals may not add due to rounding.

Exhibit P-3a	Individual Modification			
MODIFICATION TITLE:	Structural Improvements (OSIP 152-83)			
MODELS OF SYSTEMS AFFECTED:	F-14A/B/D	TYPE MODIFICATION:	Structural Life Extension/Safety/Reliability	

DESCRIPTION/JUSTIFICATION: A full scale test on F-14 "Aircraft 98" mounted test rig at Grumman, Bethpage was concluded in 1995. The goal of the fatigue test was 18,000 hours, approximately equivalent to 9,000 hours flight time. A total of 17,349 test hours were completed. The point at which structural Engineering Change Proposals (ECPs) are initiated depends upon the type of failure discovered in testing and its location in the aircraft structure. When a critical load path involving safety is compromised, a determination is made as to how many flight hours can be flown before aircraft become structurally unsafe to fly. Various fatigue analysis models, plus "Aircraft 98" Test Data, determine the point at which flying must stop and repairs be performed in order to reach or extend the aircraft fatigue life. All modifications are based on the results of such tests. The primary structural improvements in the OSIP and panel fatigue testing, wire fatigue testing, and several other airframe modifications: FS 353 Frame Replacement, Back-up Flight Control, TF-30 Breather Pressure, PHOFINX Fairing Latches, 2 Outer Wing Panel Leading Edge Repairs, Remanufacture F-14B(KB, KM) and F-14D(r) Door reconfiguration, as well as associated NRE for which kits will be bought in OSIP 20-96. Outer Wing Panel Testing at 8316 hours of testing has identified a new crack in the front spar web at Slat Station #2 , which also dictates the added requirement for partial 9K kits procured in FY00.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Northrop-Grumman Aerospace Corporation completed fatigue tests to provide failure data. The ECP's procured under OSIP 152-83 are to support those aircraft that require various TCRs. 5,000 (5K TCR) incorporates ECP-1225 (AFC-776) and ECP-1227 (AFC-790, AFC-837). 7,000 Hour TCR (7K TCR) is ECP-1243 (AFC-802). 9,000 Hour TCR (9K TCR), ECP-1287 AFC-875, is being designed, tested and procured with AFC in development. The TCR's are also expressed in percent of Fatigue Life Expended (FLE). All F-14's required to sustain inventory requirements will receive 5K TCR's. F-14B's and F-14D's will receive 7K and 9K TCR's. These corrections will be performed concurrently, whenever possible, to minimize installation costs.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY	2003	FY:	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY 2	2009	To Co	mplete	-	Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
5K Kits, ECP 1225/1227	333	39.4																				
F-14D 7K Kits, ECP 1243	54	15.4																				
9K Kits, ECP 1287	42	20.3																				
TCR Fuel Cells	50	0.2																				
ECP-305 BUFCOM Part 1 Kits	200	0.1																				
ECP-276 BUFCOM Part 11 Kits	145	0.1																				
AFC-859 Bulk Material, ECP 1285	200	0.2																				
ECP 1285 PT II WING CRACK	200	0.2																				
Wing Crack III	10	*	145	0.2																		
ECP-304 F.S. 353 Frame Kits	194	0.6																				
TF-30 Breather Pressure **	305	2.8																				
Phoenix Fairing Kits, ECP Pending	50	*																				
Door Reconfiguration	218	0.8																				
Rudder Servo, ECP 279	288	1.0																				
FEMS Engine Diagnostic	20	0.4																				
AFC-737, ECP 147 5K Partial	50	0.2																				<u> </u>
Install Kits NR		42.9																				
Other Prior Year Kits		47.5																				
Installation Equipment																						
Auxillary Hardware		1.3																				
Installation Equipment N/R		17.5																				
Engineering Change Orders																						
Data		2.1																				
Training Equipment																						
Support Equipment																					Ь	
ILS																						
Other Support		17.0		4.8		1.5																
Interim Contractor Support																						
Installation Cost	475	144.6	129.0	2.1	120.0	2.1																
Total Procurement		354.6		7.0		3.6																

Notes

1. Totals may not add due to rounding

3. Double asterick indicates "I" or "O" level Installs which are not funded with APN-5 dollars.

2. Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODELS O	F SYSTEM	S AFFEC	TED:	F-14A/B/D						-	MODII	FICATIO	N TITLE:	Structura	I Improven	nents (OS	IP 152-83	ECP-122	5/1227/12	243/1287	(5K, 7K, 9	K KITS)				
INSTALLAT	ION INFOR	RMATION:																								
METHOD O	F IMPLEMI	ENTATIO	N:					ı	NADEP & c	ommercial	depot cond	current wit	h SDLM: N	ADEP and	contractor	field mod.	teams (FM	T); drive-in	mods. (DI	M), organiz	zational and	intermediat	te level inst	alls.		
ADMINISTR	ATIVE LEA	ADTIME:				7	Months	_			PRODUC	CTION L	EADTIME	Ē:		11	-16	Months								
CONTRACT	DATES:		FY 2002:				_		FY 2003:					_	ı	FY 2004:					_	FY 2005:				
DELIVERY	DATE:		FY 2002:				_		FY 2003:					_	ı	FY 2004:					_	FY 2005:				
												(\$ in	Millions)													
	Cost:		Pric	or Years	F)	/ 2002	F۱	/ 2003	FY	2004	FY 2	2005	FY	2006	FY 2	2007	FY	2008	FY	2009	To Co	mplete	T	OTAL		
	000		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1	
FY 2001	& PY () ki	ts	363	130.8	5	1.1	1	0.7]	
FY 2002																										
FY 2003	.,																								4	
FY 2004	` /																								4	
FY 2005	.,																				1				4	
FY 2006																					1				4	
FY 2007 FY 2008																									4	
FY 2009																										
	plete () kits																								1	
TOTAL	5.0.0 ()	,	363	130.8	5	1.100	1	0.700													1				1	
																									-	
	FY 2001			2002				2003			FY 2			.		2005				2006						
1	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In Out	363 345	7	3	2	3	2	3	2	2																	
															ı							J				
		FY	2007			FY	2008			FY:	2009		Т	Го			1									
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL										
In															36	69	1									
Out															36	69										

Exhibit P-3a																										
MODELS O	F SYSTEM	IS AFFEC	ΓED:		F-14A/B	3/D				-	MODI	FICATIO	N TITLE:	Structura	l Improven	nents (OS	IP 152-83	WING CF	RACK II/III	(ECP-12	85 PT II)					
INSTALLAT	ION INFOR	RMATION:																								
METHOD C	F IMPLEM	ENTATIO	N:					NADE	P & comm	ercial depo	ot concurre	nt with SD	LM; NADE	P and cont	ractor field	mod. team	(FMT); dri	ve-in mods	. (DIM), org	ganizationa	al and intern	nediate level	l installs.			
ADMINISTR	ATIVE LEA	ADTIME:				4	Months				PRODU	CTION L	EADTIME	Ē:		;	3	Months								
CONTRACT	DATES:		FY 2002:				-	ı	FY 2003:					<u>-</u>	ı	Y 2004:					_	FY 2005:				
DELIVERY	DATE:		FY 2002:				-	I	FY 2003:					-	I	FY 2004:					-	FY 2005:				
	Cost:		Prio	or Years	FY	/ 2002	FY	2003	FY:	2004	FY:		Millions)	2006	FY:	2007	FY:	2008	FY 2	2009	To Co	mplete	TO	OTAL	_	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
FY 2001	& PY (210) kits	112	1.3	98	0.7																	210		2.0	
FY 2002	(145) kits				26	0.3	119	1.4															145		1.7	
FY 2003	() kits																									
FY 2004	. ,																									
FY 2005	.,																									
FY 2006																									_	
FY 2007	.,																								_	
FY 2008																										
FY 2009																									-	
TOTAL	olete () kit	S	112	1.3	124	1.0	119	1.4															355		_	
	n Schedul	е	112	1.3	124	1.0	119	1.4															355		3.7	
	FY 2001			2002				2003				2004			FY 2	2005			FY 2	2006						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In	112	20	23	37	44	30	30	30	29																	
Out	101	11	20	23	37	44	30	30	30	29																
																	1									
			2007				2008				2009	_		0	то:	T 4.1										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	1	TAL										
In Out						-										55										
Out		J	l	1		1	I		Į.				Į.		3	55	J									

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	F-14 Precision Strike Program (OSIP 42-95)			
MODELS OF SYSTEMS AFFECTED:	F-14A/B/D		TYPE MODIFICATION:	Warfighting Upgrade

DESCRIPTION/JUSTIFICATION: The F-14 Precision Strike Operational Document (ORD 406-88-95) dated 14 June 1995 delineates an urgent Fleet requirement for a precision strike capability in FY 1996 to maintain a capacity for long range, high payload strike missions due to the A-6 retirement. The F-14 Precision Strike Program will enhance the strike-lighter capabilities of the existing F-14 aircraft to maintain a carrier-based extended range, high payload strike capability of the F-14 aircraft will be enhanced through the incorporation of a Forward Looking Infrared Receiver/Laser Designator (FLIR/LD). The FLIR/LD will provide the capability to autonomously target and deliver laser guided bombs, (CBS) and GPS Guided Weapons against strategies, (ingly value targets (funds) and mobile battlefted targets (fands), amond position squared personnel carriers, SAM sites, etc.). The provide the capability to autonomously target and deliver laser guided bombs, (CBS) and GPS Guided Weapons against strategic, ingly value targets (funds), and mobile battlegist (fands), amond position provided the capability of the F-14 aircraft will be enhanced by the Fast Tactical Imagery System to allow FLIR/LD information to be passed near real time to the battle group. To enhance the survivability of the F-14 defensive countermeasure systems (AN/ALR-67/Bol Chaff), night vision compatible cockpit modification and increasing the operational altitude of the LTS to 40,999 feet will be made to fleet aircraft will be modified to deliver rockets to designed targets. Non-development items (NDI) will be used to the maximum extent on this program. In FY 2002, a Congressional add of \$2.5 million was included to fund maintenance, spare parts, training and TARPS-CD costs associated with additional battle group deployments.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The F-14 Precision Strike Program was approved at a Milestone IV/II Review in October 1995. Following the milestone decision, the integration of a NDI FLIR/LD (LANTIRN largeting pod) and Programmer Tactical Information Display (PTID) on the F-14 aircraft began with the award of the integration contract to Lockheed Martin Corporation in November 1995. To lower cost and shorten schedule, the FLIR/LD was integrated as a stand alone sensor. F-14 FLIR/LD operational capability was established in June 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

		r Years		2002		2003		2004		2005		2006		2007		2008	FY 2		mplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$
RDT&E																					-
PROCUREMENT																					-
Installation Kits																					
F-14B MCAP	10	0.2																			
F-14A Kits	70	3.2																			
F-14B UPGRADE Kits	67	3.1																			
F-14D Kits	48	2.1																			
AN/ALR-67 Kits	51	10.0																			
NVIS F-14A/B Kits	114	3.2																			
NVIS F-14D Kits	43	1.3																			
F-14 FTI KITS	117	0.3																			
Bol Chaff F-14A Kits	80	1.7																			
F-14B/D GBU-24E/B KITS	117	2.2																			
Installation Kits N/R		15.7																			
Installation Equipment																					
Lantirn Targeting System	75	174.9																			
Night Vision Equipment	177	3.0																			
ALR-67 BSF	60	4.0																			
GBU 24E/B AAE	114	1.1																			
PTIDS	28	14.0																			
LANTIRN 40K	74	5.5																			
Installation Equipment N/R	19	60.5																			
Engineering Change Orders		1.5																			
Data		3.9																			
Training Equipment	3	4.4																			
Support Equipment		26.6																			
ILS		10.0																			
Other Support		10.3		2.5																	
Interim Contractor Support		8.3					<u> </u>														
Installation Cost *	666	26.1																			
Total Procurement *		397.3		2.5																	

Notes:

1. Totals may not add due to rounding

Exhibit P-3a																								
MODELS OF	SYSTEM	S AFFECT	ED:	F-14A/B/D						_	MODI	IFICATIO	N TITLE:	F-14 Pre	cision Strik	e Prograr	n (OSIP 4	2-95) F-14	IB MCLAF	P, F-14A K	its, F-14B	Upgrade I	Kits, F-14D	Kits
INSTALLATIO	ON INFOR	MATION:																						
METHOD OF	IMPLEME	ENTATION	1 :								N	aval Aviatio	on Depot Ir	stallations	concurrent	with SDLI	M or drive-i	n modifica	tions.					
ADMINISTRA	ATIVE LEA	DTIME:	-			2	Months	=,			PRODU	CTION L	EADTIMI	Ē:			3	Months	<u>.</u>					
CONTRACT	DATES:		FY 2002:				_		FY 2003:					_	ı	Y 2004:					_	FY 2005:	:	
DELIVERY D	ATE:								FY 2003:															
			-				_					(\$	in Million	s)							_			
	Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY :	2007	FY:	2008	FY	2009	To Co	mplete	Т	OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY () kit	S	195	22.0																				
FY 2002	() kits																							
FY 2003	() kits																							
FY 2004	() kits																							
FY 2005	() kits																							
FY 2006	() kits																							
FY 2007	() kits																							
FY 2008	() kits																							
FY 2009	() kits																							
To Comp	lete () kits																							
TOTAL			195	22.0																				
Installation			EV			1	5)/	2003		1				1	5)//	2005		1				7		
	FY 2001 & Prior	1	2	2002	4	1	2	3	4	1	2	2004	4	1	FY 2	3	4	1	2	2006	4	1		
ln.				J	-			, J	-	<u> </u>		3	-	 		3		 		3	-	1		
In Out	195 194	1							 			 								 	 	1		
Out	194	ı			l		I	L	<u> </u>		1	1	1	I	l		I	I	1	<u> </u>	1			
ı		EV.	2007		1	F) /	2000			E\/ :	2000				ī		1							
}	, 1		2007				2008		-		2009	1 4	1	0	ΤΩ:									
	1	2	3	4	1	2	3	4	1	2	3	4	Con	plete	TO		1							
lln												ļ			19	95								
Out	1														19									

Exhibit P-3a																									
MODELS OF	SYSTEM	IS AFFEC	TED:	F-14B/D						_	MODI	FICATIO	N TITLE:	F-14 Pre	cision Strik	e Progran	n (OSIP 42	-95) GBL	-24						
INSTALLATI	ON INFOR	RMATION:																							
METHOD OF	IMPLEM	ENTATION	N:									Nava	I Aviation I	Depot Insta	llations cor	ncurrent w	ith SDLM or	drive-in m	odification	15.					
ADMINISTRA	ATIVE LEA	ADTIME:				2	Months	<u>.</u>			PRODU	CTION L	EADTIME	Ē:			2	Months							
CONTRACT	DATES:		FY 2002:				_		FY 2003:					_	F	Y 2004:						FY 2005:			
DELIVERY D	ATE:		FY 2002:				-		FY 2003:					-	F	FY 2004:						FY 2005:			
												(\$	in Million	s)											
	Cost:		Pric	or Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY:	2006	FY 2	2007	FY 2	800	FY:	2009	To Co	mplete	TC	TAL	1
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	ĺ
FY 2001		7) kits	117	0.9																			117	0.9	i
FY 2002 FY 2003	.,								-															-	i
FY 2003	.,								1												-			-	i
FY 2005	.,																								i
FY 2006	• •																							-	i
FY 2007	() kits																								i
FY 2008	() kits																								i
FY 2009	• •																							-	i
To Comp	lete () kit	S																						-	i
TOTAL			117	0.9																			117	0.9	Ĺ
Installation		е																				•			
	FY 2001			2002	1 4	4		2003	Τ 4	4	FY 2	2004 3	1 4	1	FY 2	2005	1	4	FY:	2006	1				
In	& Prior	1	2	3	4	1	2	3	4	1		3	4	1		3	4	1	2	3	4				
Out	116	1																							
		•	i.					į.														ı			
		FY	2007			FY	2008			FY:	2009		1	ō			1								
	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	TO	TAL									
In															11	17	1								
Out															11	17									

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	F-14 Critical System & Component Modernization (OSIP 20-96)		
MODELS OF SYSTEMS AFFECTED:	F-14A/B/D	TYPE MODIFICATION:	Safety/Reliability

DESCRIPTION/JUSTIFICATION: The F-14 TOMCAT will provide Strike Fighter capability for Naval Aviation until integration of the F/A-18E/F. System and component age and obsolescence will continue to impact F-14 safety and mission effectiveness. A need exists to develop and implement cost effective modifications for problem systems and components. Modifications included in this OSIP will reduce potential safety risks and improve aircraft mission performance and readiness through modernization of critical systems and components. Those modifications consist of the following Engineering Change Proposals (ECPs): AWG-9 ECP 304 relaces obsolete twing and switches (safety issue); Vertical Display Indicator Group ECP 308 improves sobsolete twing and switches (safety issue); Vertical Display Indicator Group ECP 308 improves internal through in the radar receiver; Throttle Quadrant ECP 309 replaces obsolete wing and switches (safety issue); Wall and the proposed support of the proposed systems and components reducing wing binding (safety issue); Wall and the proposed systems and components reducing wing binding (safety issue); Nacelle Element ECP 342 adds additional fire warning elements on the F-14B/ID to identify potential afterburner wall burn through; ECPs 320/321 correct medium PRF problems with power supplies and get them up to current -170 configurations, Wing Sweep Motors, 15 Degree Elbow Hydraulic Lines, the Turtleback Optical Fire Detection, AICS Programmer, APG-71, F-14D IRIST Compressor, the Mission Computer Upgrade, F-14D JTIDS Notch Filter, and HUD, SCADC, F-14D Glareshield and F-14D Readiness Improvement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: No major development is planned within this OSIP. Potential safety and performance issues were identified inaccordance with NAVAIR, Fleet users, and the F-14 Fleet Support Team (FST). The FST used follow-on engineering/logistical analysis to identify affordable modifications that correct problems in weak or failing components rather than completely redesigning the system/subsystem.

FINANCIAL PLAN: (TOA, \$ in Millions)

		Years		2002		2003		2004		2005		2006		2007		2008		2009		mplete		otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AWG-9 Antenna**	170	0.4																				
AWG-9 BEAM Power Supply	200	0.5																				
AWG-9 COLL Pwr Supp	200	0.7																				
AWG-9 DDD**	170	0.7																				
AWG-9 Receiver**	170	2.8																				
Flap/Slat	200																					
FCBM (ECP-276)	145	0.1																				
Throttle Quadrant	200	0.8																				
VDIG	64	0.1																				
Wing Sweep Motors**	400	7.6																				
Nacelle Elements	123	2.0																				
15 Deg Elbow Hyd Line**	200	0.4																				
Waveguide Dryers**	200	0.7																				
APG-71 Power Conv.**	200	0.5																				<u> </u>
F-14D IRST Compressor**	12	1.0																				
Mission Computer Upgrade**	48	4.8																				
F-14D HUD**	10	0.0																				
SCADC**	150	0.1																				
F-14D Glareshield**	50	0.3																				
RWR ANTENNA	75	1.0																				
Installation Kits N/R		7.2																				
Installation Equipment																						
Installation Equipment N/R		0.1																				
Engineering Change Orders																						
Data		0.7																				
Training Equipment		1.3																				
Support Equipment	65	2.3																				<u> </u>
ILS		0.0																				<u> </u>
Other Support		8.7																				
Interim Contractor Support																						<u> </u>
Installation Cost	900	10.7	32.0	0.4																		
Total Procurement		55.4		0.4																		

Notes

1. Totals may not add due to rounding

2. Double asterick indicated "I" or "O" level Installs which are not funded with APN-5 dollars.

xhibit P-3a																								
MODELS OF	SYSTEM	S AFFECT	TED:	F-14 A/B/	/D					_	MODI	FICATIO	N TITLE:	F-14 Crit	ical Syster	n & Comp	onent Mod	dernizatior	n (OSIP 2)-96) ECP	-276 (FCE	BM Wiring)		
NSTALLATIO	ON INFOR	MATION:								_														
METHOD OF	IMPLEMI	ENTATION	N:										Depot Leve	el Maintena	ance and In	termediate	Level.							
ADMINISTRA	ATIVE LEA	ADTIME:				1	Months	-			PRODU	CTION L	EADTIME	≣:			5	Months	_					
CONTRACT	DATES:		FY 2002:				_		FY 2003:					-		FY 2004:					_	FY 2005:		
DELIVERY D	ATE:		FY 2002:				_		FY 2003:					_		FY 2004:					_	FY 2005:		
												(\$ in !	Millions)											
	Cost:		Prio	r Years	F	Y 2002	FY	2003	FY	2004	FY	2005		2006	FY	2007	FY	2008	FY	2009	To Co	omplete	TO	OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001		ts	145	0.5	5																			
FY 2002																								
FY 2003							1		.												<u> </u>			
FY 2004 FY 2005	• •				1		1		1						1				1		ł			
FY 2005							†		1												1			
FY 2007																								
FY 2008	• •																							
FY 2009																								
To Comp	lete () kits	3																						
TOTAL			145	0.5	5																			
Installation)																				_		
	FY 2001 & Prior	4	1	2002	1 4	4	FY:	2003	1 4		FY 2	3	1 4	4	FY:	2005	1 4	4		2006	4			
In	& Prior	1	2	3	4	1		3	4	1		3	4	1		3	4	1	2	3	4	1		
Out	145	4																				1		
Jui	171	7			1		<u> </u>	ı				1								1	<u> </u>	_		
Ī		FY 2	2007			FY	2008			FY:	2009		Т	-o			1							
j	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	то	TAL								
In					Ī		İ								1	45	1							
Out					1	1	1		1				1			45	1							
			•	•		•			-	•	•	•												

Exhibit P-3a																								
MODELS OF	SYSTEM	IS AFFEC	TED:	F-14 A/B/	'D					_	MODI	FICATIO	N TITLE:	F-14 Crit	ical Syster	n & Comp	onent Mod	lernization	(OSIP 20)-96) ECP	-310 (FLA	P SLAT)		
NSTALLATIO	ON INFOR	RMATION:																						
METHOD OF	IMPLEM	ENTATIO	N:											Depot Le	vel Mainter	nance								
ADMINISTRA	ATIVE LEA	ADTIME:				1	Months	<u> </u>			PRODU	CTION L	EADTIME	Ē:			5	Months						
CONTRACT	DATES:		FY 2002:				_		FY 2003:					<u>-</u>		FY 2004:					_	FY 2005:		
DELIVERY D	ATE:		FY 2002:				_		FY 2003:					-		FY 2004:					_	FY 2005:		
	Cost:		Prio	r Years	E^	Y 2002	EV	7 2003	F۷	2004	FV	(\$ in 1	Millions)	2006	FV	2007	FV ·	2008	FV	2009	To Co	omplete	Τſ	OTAL
	CUSI.		Qty	s s	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (200)) kits	198	7.0	i 		*	<u> </u>	1	<u> </u>				_									200	
FY 2002	,	,		-																				
FY 2003	() kits																							
FY 2004	() kits																							
FY 2005																								
FY 2006																								
FY 2007	• •				-	ļ	-		!													_		
FY 2008					-	1	1	1	1		1										1		1	
FY 2009 To Comp		•	-		1	 	1		1		1		-		-		-				1	-	1	
TOTAL	iete () Kits	5	198	7.0) 2	2 0.0		-	ł – –	1	1											 	200	7.0
Installation		Э			-				-		•										•	_		
	FY 2001		1	2002		<u> </u>		2003			FY 2			L .	1	2005		L .		2006		4		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4		
In Out	198	2			<u> </u>	1	 	 	 		-		1				1				1	-		
Out	198		2		1		1	1	1		1	<u> </u>	1		1		1				1	J		
ſ		FY 2	2007		1	EV	2008		ı	EV.	2009			ō	1		1							
ŀ	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	TO	TAL								
In	1			-	 '		1 3	7	 '			-	COII	hiere	-		1							
In Out			1		1		1		1				1			00	ł							
Out			1		I		1		1	l		1			2	00	J							

Exhibit P-3a																								
MODELS OF	SYSTEM	S AFFECT	ED:	F-14 A/B/	D					_	MODI	FICATIO	N TITLE:	F-14 Crit	ical Syster	n & Comp	onent Mod	dernization	(OSIP 20)-96) Nace	elle Eleme	nts		
INSTALLATI	ON INFOR	MATION:																						
METHOD OF	F IMPLEMI	ENTATION	1 :											Depot Le	vel Mainter	nance								
ADMINISTRA	ATIVE LEA	DTIME:				1	Months	3			PRODU	CTION L	EADTIME	<u>:</u>		:	2	Months						
CONTRACT	DATES:		FY 2002:					_	FY 2003:					_		FY 2004:			-		_	FY 2005:		
DELIVERY D	DATE:																							
												(\$ in 1	Millions)											
	Cost:		Prior	Years	F	Y 2002	F	Y 2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY (123) kits	93	1.9	30	0	.4																123	2.3
FY 2002	()																							
FY 2003	.,																							
FY 2004							-																	
FY 2005							-	1	ļ		ļ													
FY 2006 FY 2007	.,						+																	
FY 2007 FY 2008	. ,				1		-	1	!		!	-	ł		1				ł	-	1			
FY 2008	.,						+		1		1													
	lete () kits						+																	
TOTAL	nete () Kits		93	1.9	30		.4		1		1												123	2.3
Installation	n Schedule	1																						
	FY 2001			2002				2003			1	2004	Ti .			2005				2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In	93	14	8	6	2	-		<u> </u>	-		-						ļ					ł		
Out	91	2	14	12	4																	j		
i									1				•				7							
		FY 2					Y 2008	1	ļ		2009		1	0										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL	1							
In																23								
Out					I	1	1	1	1	1	1	1	I		1 1	23	1							

Exhibit P-40, BUDGET ITEM JUST	TFICATION								DATE:			
											February 200	3
APPROPRIATION/BUDGET ACTIVITY			NCLATURE									
Aircraft Procurement, Navy/APN-5 Ai	rcraft Modific	ations			ADVERSARY SERI	ES						
Program Element for Code B Items:			Program Elem	ents								
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY												
COST (In Millions)	14.8		34.1	8.3	2.6	2.2	0.2	1.6	1.6	1.7	21.9	89.1

These line items fund modifications to an inventory of 36 F-5E/F Adversary aircraft, and 14 F-16A/B Adversary aircraft. It allows the U.S. Navy to maintain as close a standardized configuration with the Air Force as possible based on need. It also allows the Navy to initiate unique structural or avionics modifications. The overall goal of the modifications budgeted in FY 2004 is to incorporate into the airframe and engines, selected Air Force approved Time-Compliance Technical Orders (TCTO's) to improve safety and reliability. The specific modifications budgeted and programmed are F-5 Structural Repair Program and F-16 A/B Stand-Up.

* As per 7100 AIR-10.1.2KD/006 Reprogramming Action Requiring Congressional Prior Approval dated 8 May 2002, a reprogramming action has been submitted to realign \$500,000 of FY02 APN-5 funds to APN-4 to establish an F-5 Adversary Aircraft procurement program to procure one-F-5E aircraft from the Government of Switzerland. Additionally, the reprogramming action has been submitted to realign \$2,620,000 of FY02 APN-5 funds to establish an F-5 Adversary Aircraft Modification Engineering Change Proposal within this OSIP.

29-81	F-5 STRUCTURAL REPAIR PROGRAM	Prior <u>Years</u> 14.8	<u>FY 2002</u> 9.6	<u>FY 2003</u> 6.3	<u>FY 2004</u> 2.6	FY 2005 2.2	<u>FY 2006</u>	<u>FY 2007</u>	FY 2008	<u>FY 2009</u>	To Complete 8.2	<u>Total</u> 49 . 0
13-02	F-16A/B		24.5	1.9							13.7	40.2
	Total	14.8	34.1	8.3	2.6	2.2	0.2	1.6	1.6	1.7	21.9	89.1

Note: Totals may not add due to rounding.

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 28 PAGE NO. 1

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	F-5 STRUCTURAL REPAIR PROGRAM	(OSIP 29-81)		
MODELS OF SYSTEMS AFFECTED:	F-5 ADVERSARY AIRCRAFT		TYPE MODIFICATION:	SAFETY/RELIABILITY

DESCRIPTION/JUSTIFICATION: The Navy F-5E/F Adversary aircraft inventory, and all applicable funds are for 36 aircraft. USAF updated durability, damage and tolerance analysis, structural inspection, full scale fatigue testing and counting accelerometer data has identified structural fatigue in wings and fuselage areas. The US Navy plans to utilize these aircraft in the Adversary mission through FY2015, and beyond. However, aircraft will be grounded prior to 2015, when maximum fatigue life is reached on major structural components, unless further analysis and replacements are procured and installed. The Navy plans to replace the current high time fuselage with low time Swiss F-5E Fuselages. Also, Wings, as well as, Horizontal Stabilizers, Vertical Stabilizers, V

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All components and systems required for this program are already qualified, and/or approved for Navy use. No Operational Testing is envisioned under this program.

FINANCIAL PLAN: (TOA, \$ in Millions)

INANCIAL FLAN. (TOA, \$ IIT WIIII	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	T	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Various Kits	291	1.2																				
Wings	4	3.9																				
Vertical Stabilizer	12	2.0	9	1.6																		
Vertical Stabilizer Install Kit	10	0.2																				
Upper Cockpit Longeron	3	0.2	5	0.4	5	0.3	5	0.3														
Horizontal Stabilizer	13	1.5																				
Dorsal Longeron	21	1.6																				
Dorsal Longeron Tool Kit																						
SDR Kits			10	0.9																		
Canopy Latch Mod/Refurb Kits			36	0.2																		
Swiss/US Conversion Kit			1	0.1	4	0.2	4	0.2	4	0.2												
Installation Kits N/R		1.8		1.6		2.8																
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1		1.1																		
Training Equipment																						
Support Equipment																						
ILS		0.7		1.2		1.1		0.3		0.3												
Other Support				1.5290		0.1410		0.2400		0.2370												
Interim Contractor Support																						
Installation Cost	291	0.4																				
Installation Vstab	2	0.2	3	0.2	4	0.3	4	0.3	4	0.3												
Installation Dorsal Longeron	11	0.9	1	0.1																		
Installation Up Cockpit Longeron	2	0.2	4	0.4	4	0.4	4	0.4	4	0.4												
Installation Swiss to US Conversion			1	0.2	4	0.9	4	0.9	4	0.7												
Installation SDR			5	0.2	5	0.2																
Total Procurement		14.8		9.6		6.3		2.6		2.2												

Notes:

1. Totals may not add due to rounding

Note: 15 Vertical Stabilzers were procured in Prior Years under Various Kits for total of 36 V-Stab kits.

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 28 PAGE NO. 2

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																										
MODELS OF	SYSTEM	IS AFFECT	ED:		F-5 AD\	/ERSAR	Y			_	MODI	FICATIO	N TITLE:		DORSAL	LONGERO	NS									
INSTALLATI	ON INFOR	RMATION:		DEPOT	LEVEL					_																
METHOD OI	F IMPLEM	ENTATION	:	CONCUR	RENT with P	PHASE DEF	POT MAINT	ENANCE																		
ADMINISTR.	ATIVE LE	ADTIME:				1	Months	<u>3</u>			PRODU	CTION L	EADTIME	:			10	Months								
CONTRACT	DATES:		FY 2002	::		No	ov-01	_		FY 2003:			N	/A	-			ı	Y 2004:		N	/A	_		FY 2005:	
DELIVERY [DATE:		FY 2002	::		Ju	ıl-02	=		FY 2003:			N	/A	-			ı	Y 2004:		N	/A	-		FY 2005:	
	Cost:		Drio	r Years	EV	2002	EV	2003	ΕV	2004	EV	2005	, · · ·	Millions	FY:	2007	Ev /	2008	FY 2	2009	To Co	mnlete	т/	OTAL	7	
	CUST:		Qty	s rears	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	npiete \$	Qty	STAL \$	1	
FY 2001	& PY () k	its	1			0.1	• • • • • • • • • • • • • • • • • • • 		<u> </u>					_	<u> </u>	¥		¥	۵.,	<u> </u>	- ~''	Ψ	<u> </u>		7	
FY 2002			1	1	1		1																			
FY 2003	() kits																									
FY 2004	() kits																									
FY 2005	,																									
FY 2006					1																				4	
FY 2007			1		1				<u> </u>																4	
FY 2008	,		1		1		1																		4	
FY 2009	. ,	_	1	1	1		1	1																	-	
To Comp	olete () kit	S	1	1 0.9	9 1	0.1		-																	-	
Installation	n Schedul	е	<u> </u>	., v																			1	1	_	
	FY 2001		FY 2					2003				2004				2005			FY 2							
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In .	11		1	.	 			1	-																	
Out	11	<u> </u>		1				1	1																	
i		E) ()	2007		1	E) :	2000		T		0000		-		1		1									
	1	FY 2	3	4	1	FY 2	2008	4	1	FY 2	2009	4	1	0	то:	TAL										
In			1 3	4	 		<u> </u>	4	 		<u> </u>	4	Corr	plete												
In Out					1			1	1		1					2	ł									
						1				1		1			. 1	/										

Exhibit P-3a																											
MODELS OF	SYSTEM	S AFFECT	ED:		F-5 AD\	/ERSAR	Y AIRCR	AFT		-	MODI	FICATIO	N TITLE:		VERTIC	AL STAB	ILIZER										
INSTALLATI	ON INFOR	RMATION:		DEPOT L	EVEL					_																	
METHOD OF	IMPLEME	ENTATION	:	CONCURR	ENT with F	PHASE DEI	POT MAINT	ENANCE																			
ADMINISTRA	ΔΤΙ\/Ε Ι ΕΔ	DTIME:				1	Months	,			PRODU	CTION L	FADTIM	= -		1	ın	Months									
, Divilition o	· · · · · · · · · · · · · · · · · · ·	ID I IIVIL.				•	WOTHER	<u>-</u>										WOTHING	•								
CONTRACT	DATES:		FY 2002:		No	v-01		-		FY 2003:			Nov-02		-			I	FY 2004:		Nov	v-03	-		FY	2005:	Nov-03
DELIVERY D	ATE:		FY 2002:		Jul	I-02		_		FY 2003:			Jul-03		_			1	FY 2004:		Jul	l-04	_		FY	2005:	Jul-05
													(\$ ir	n Millions)													
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	T .	2007	FY:	2008	FY	2009	To Co	mplete	Т	OTAL			
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
FY 2001		kits	2	0.2	3	3 0.2	2 4	0.3	3	0.3													12	2	1.0		
FY 2002	• •								1	0.1	4	0.3									4	0.4		•	0.7		
FY 2003								-																-			
FY 2004	,						-	-																	-		
FY 2005 FY 2006																								1	-		
FY 2007	• •							-																	_		
FY 2008	. ,																								-		
FY 2009																											
To Comp	.,	its																			15	1.3	15	5	1.3		
TOTAL			2	0.2	. 3	3 0.2	2 4	0.3	4	0.3	4	0.3									19	1.7	36	6	3.0		
Installation	Schedule	•																									
	FY 2001		FY 20	002			FY	2003			FY	2004			FY:	2005			FY	2006		1					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1					
In	2		1	2			2	2			2	1	1			2	2										
Out	2		1	2			2	2			2	1	1			2	2					ļ					
		FY 2	1007		1	ΓV	2008		1	EV.	2009			Го	1		1										
	1	2	3	4	1	2	3	4	1	2	3	4	1	nplete	то	TAL											
In			 					† 						19		36	1										
Out														19	_	36	1										

Exhibit P-3a																												
MODELS O	F SYSTEM	IS AFFECT	ED:		F-5 AD\	VERSAR	Y AIRCRA	AFT		-	MODI	IFICATIO	N TITLE:		UPPER	COCKPI	T LONGE	RON										
INSTALLAT	ION INFO	RMATION:		DEPOT I	EVEL					_																		
METHOD O	F IMPLEM	IENTATION	:	CONCURR	ENT with F	PHASE DEF	POT MAINT	ENANCE																				
ADMINISTR	ATIVE LE	ADTIME:				1	Months	<u>.</u>			PRODU	ICTION L	EADTIM	E:		,	10	Months	_									
CONTRACT	DATES:		FY 2002:		No	v-01		_		FY 2003:		No	v-02		_				FY 2004:		Nov-03		_		FY 200	05:	١	lov-04
DELIVERY (DATE:		FY 2002:		Ju	I-02		=		FY 2003:		Ju	I-03		=				FY 2004:		Jul-04		<u>-</u>		FY 200	05:		Jul-05
													(\$ ir	n Millions)													
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete	T	OTAL				
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
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FY 2004			1						1	0.2	4	0.4					1						5	· '	0.6			
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FY 2006 FY 2007							1																	-	-			
FY 2007																												
FY 2009	. ,		1			1	1								1													
	plete (18) I	kits																			18.0	1.9	18		1.9			
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	FY 2001		FY 20		1			2003				2004				2005				2006								
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
In Out	2		1		3	1	2		2		2	1	1			1	3											
Out			1 1		3			<u> </u>				1	1		<u> </u>	1	3					ı						
		FY 2	2007			FV	2008			FV ·	2009		-	Го	1		1											
	1	2	3	4	1	2	3	4	1	2	3	4	1	nplete	то	TAL												
In			Ť		Ì		Ť	i i	Ì		<u> </u>	i i		18	•	36	1											
Out			1			1		1				1		18	_	36	1											
					_												-											

MODELS OF SYSTEMS AFFECTED: F.S. ADVERSARY AIRCRAFT MODIFICATION TITLE: STRUCTURAL DATA RECORDED. NISTALLATION INFORMATION: DEPOT LEVEL Mostles PRODUCTION LEADTIME: Mostles PRODUCTION LEADTIME: Mostles PRODUCTION LEADTIME: Mostles PRODUCTION LEADTIME: Mostles PRODUCTION LEADTIME: Mostles PRODUCTION LEADTIME:	Exhibit P-3a																											
METHOD OF IMPLEMENTATION: DOMOURSENT WIN PHASE SEPOT MAINTENANCE ADMINISTRATIVE LEADTIME: 1 Months PY 2003 PY 2004 FY 2005 Nov-02 FY 2004 NA FY 2005 NA FY 2005 NA FY 2006 Na FY 2006 NA F	MODELS OF	F SYSTEM	IS AFFECTE	ED:	F-5 ADV	ERSARY	AIRCRA	FT			_	MODI	FICATIO	N TITLE:	STRUCT	URAL DA	TA RECO	RDER										
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CONTRACT DATES: FY 2002: Nov-01 FY 2003: Nov-02 FY 2004: NA FY 2005: NA DELIVERY DATE: FY 2002: May-02 FY 2003: May-03 FY 2004: NA FY 2005: NA (\$ in Millions) Cost:	METHOD O	F IMPLEM	ENTATION:		CONCURR	ENT with F	PHASE DEF	OT MAINT	ENANCE																			
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Cost:	DELIVERY [DATE:		FY 2002:		May	y-02		-		FY 2003:			May-03		-				FY 2004:		N	/A	-		FY 20	05:	N/A
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MODIFICATION TITLE: SMISS TO US CONVERSION METHOD OF IMPLEMENTATION: CONCURRENT with PHASE DEPOT MANTENANCE ADMINISTRATIVE LEADTIME: 1																											Exhibit P-3a
METHOD OF IMPLEMENTATION: CONCURRENT with PHASE DEPOT MANTEMANICE ADMINISTRATIVE LEADTIME: 1										١	NVERSIO	o us cor	SWISS T	N TITLE:	FICATIO	MODI				FT	AIRCRA	RSARY	F-5 ADVE	D: _	S AFFECTE	SYSTEMS	MODELS OF
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DELIVERY DATE: FY 2002: Jun-02 FY 2003: Dec-02 FY 2004: Dec-03 FY 2005: Sin Millions) Cost:									Months				i:	EADTIM	CTION L	PRODU				Months	1			_	DTIME:	ATIVE LEAI	ADMINISTR
(\$ in Millions) Cost:	Nov-04	Y 2005:	F`			Nov-03		Y 2004:	F					v-02	No		Y 2003:	F	-		-02	May		FY 2002:		DATES:	CONTRACT
Cost:	Dec-04	Y 2005:	F١			Dec-03		Y 2004: _	F					c-02	De		Y 2003:	F	-		-02	Jun		FY 2002:		DATE:	DELIVERY [
Complete (19) kits													Millions	(\$ ir													
FY 2001 & PY () kits		1	\L	TOTA	nplete	To Cor	2009	FY 2	800	FY 2	2007	FY:	2006	FY	2005	FY 2	2004	FY 2	2003	FY	2002	FY 2	Years	Prior `		Cost:	
FY 2002 (1) kits		1	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty			
FY 2003 (4) kits		1			-																				S		
FY 2004 (4) kits		1			-																0.2	1					
FY 2005 (4) kits		1		4	-												0.0		0.9	4							
FY 2006 () kits		1		4											0.7	1	0.9	4									
FY 2007 () kits		1		- †	-										0.7												
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TOTAL 1 0.2 4 0.9 4 0.9 4 0.7 19 3.7 32 6.3 Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4		1																									
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							2006	FY 2			2005	FY 2			2004	FY 2			2003	FY			02				ŀ
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Out 19 32																											

P-1 SHOPPING LIST
DD Form 2454, JUN 86 ITEM NO. 28 PAGE NO. 7 CLASSIFICATION: UNCLASSIFIED

xhibit P-3a	Individual Modification

MODIFICATION TITLE: F-16A/B STAND-UP (OSIP-13-02)

MODELS OF SYSTEMS AFFECTED: F-16 ADVERSARY AIRCRAFT TYPE MODIFICATION: SAFETY/RELIABILITY

DESCRIPTION/JUSTIFICATION: OSD ordered Air Force and Navy to split 28 F-16's left over from the cancelled Peace Gate Sale to Pakistan. OSIP funding will support the induction of 14 F-16 aircraft into the Adversary fleet at NSAWC, Fallon Nevada. The US Navy plans to utilize these aircraft as a Category-IV Adversary aircraft, simulating the threat of modern high performance fighters. The Navy will operate the 14 F-16's in a training program, providing approximately 300 sorties per aircraft per year. All modifications under this OSIP are to incorporate engine and airframe TCTO's. The Airframe Mod Incorporation will include a Structural Data Recorder.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: OSD directed USN to stand-up 14 F-16 Adversary aircraft at NSAWC. All modifications will install previously qualified systems or equipment. Ten F-16A and four F-16Bs have been alloted to the Navy. No DT or OT is required. IOC occured October 2002 with FOC no later than May 2003.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY:	2003	FY 2	2004	FY:	2005	FY:	2006	FY:	2007	FY	2008	FY2	2009	To Co	mplete	Tc	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Various Kits																						
Airframe Mod Incorporation			14	2.0																		
Engine Update Modification			14	11.1																		
Structural Data Recorder																						
CADS/PADS			14	0.7																		
Installation Kits N/R																						
Installation Equipment																					<u> </u>	
Installation Equipment N/R																					<u> </u>	
Engineering Change Orders																					<u> </u>	
Data				1.0																	<u> </u>	
Training Equipment																					<u> </u>	
Support Equipment				4.5		0.9															<u> </u>	
ILS				1.2		0.6															<u> </u>	<u> </u>
Other Support				3.9		0.4															<u> </u>	<u> </u>
Interim Contractor Support																						<u></u>
Installation Cost																						<u> </u>
Total Procurement				24.5		1.9																

2. Asterisk indicates amount less than \$50K

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 28 PAGE NO. 8

^{1.} Totals may not add due to rounding

Exhibit P-40, BUDGET	TITEM JUSTIFICATION								DATE:	Februa	ry 2003	
APPROPRIATION/BUDGET Aircraft Procurement,	ACTIVITY Navy/APN-5 Aircraft Mod	lifications					P-1 ITEM NOMENCE F-18	LATURE Series Modific	ation			
Program Element for Code E	3 Items:						Other Related Progr	am Elements				
						ı	+			ı		
	Prior	ID									Io	
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QUANTITY			FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Total
QUANTITY COST			FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Total 5,794.6

This line item funds modifications to F/A-18 aircraft. The F/A-18 Naval Strike Fighter is a twin-engine, mid-wing, multi-mission tactical aircraft. The F/A-18 is employed in both Navy and Marine Corps squadrons. Commencing with the FY 1988 procurement, both the single seat and two-seat F/A-18's include a night attack capability. F/A-18 can be missionized through selected use of external equipment to accomplish specific fighter or attack missions. This commonality provides the Operational Commander more flexibility in employing his tactical aircraft in a dynamic scenario. The primary design mission for the F/A-18 is a strike fighter which includes the traditional fighter applications, such as fighter escort and fleet air defense, combined with the attack applications, such as interdiction and close air support. Since the same fighter and self defense capability is retained, the overall goal of the modifications budgeted in FY 2004 is to implement commonality/capability. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
11-84	Correction of Discrep.	316.6	54.1	58.5	45.0	46.7	48.4	49.3	50.4	56.1	79.1	804.1
39-92	AN/ARC-210	13.1	1.8	1.5	1.2							17.6
19-94	Common Configuration	164.8	13.0	14.3	0.8	0.1	0.1					193.0
36-94	GPS	61.4	9.3	3.9	1.2	1.9					28.0	105.7
38-94	AN/APG-73 RUG	136.1	3.5	4.1	0.3							144.1
12-96	PIDS	50.9	0.3	1.5	1.5						191.0	245.2
10-99	DCS	3.2	1.4	4.0	4.1	4.7	2.8	1.2	1.2	1.2		23.8
11-99	SLMP	24.5	14.1	55.4	31.0	103.5	80.8	81.9	69.9	61.1	531.4	1,053.6
12-99	MIDS*	115.6	25.6	38.3	46.8	49.1	41.9	47.7	48.6	49.2	5.5	468.3
	DERF (non-add)		11.5									
20-99	NACES P3I	13.4	0.4								4.3	18.1
21-00	USMC F/A-18A UPGRADE	122.9	34.4	28.4	27.0	20.0	47.5	42.0	15.1	9.3	113.5	460.0
24-00	JHMCS	1.8		6.5	23.6	27.2	37.2	38.9	36.6	40.3	105.9	318.0
12-01	ATFLIR	11.0	41.6	86.8	103.9	103.5	104.0	130.5	133.1	148.5	55.0	917.8
19-01	E/F 2000 hr Correction of Discrep.	10.6	11.2	10.7	9.2	9.1	1.8	8.7	1.0	1.5	0.1	63.9
05-02	Digital Wing Tip for AIM 9X		1.6	1.5	0.6	0.3	0.2	0.2	0.2	0.5	1.0	6.2
06-02	C/D Training System		4.8	37.6		13.9	7.7	6.8	6.9	7.0		84.8
15-02	PRISM		2.5									2.5
12-03	E/F 4000 hr Correction of Discrep.			14.4	19.0	12.0	5.8	0.9	0.9	0.9	0.7	54.6
13-03	E/F 6000 hr Correction of Discrep.			5.8	8.0	7.9	4.8	1.4	1.4	1.4	1.9	32.5
14-03	E/F Correction of Operational Discrep.			16.4	11.0	19.3	6.6	9.9	17.9	18.1	26.1	125.3
15-03	MARK XIIA Mode 5 IFF			1.4	1.9	1.6	7.3	11.4	11.6	11.8	296.9	344.0
XX-07	AESA							30.1	30.7	31.2	219.4	311.4
TOTAL		1,045.9	219.8	391.2	335.9	420.6	397.1	460.8	425.5	438.1	1,659.8	5,794.6
* Note Defense I	Emergency Response Funding (DERF) added \$11.5M	to OSIP (12-99)										
	RESERVE INCLUDED IN TOTAL		11.7	11.8								
1												·

P-1 SHOPPING LIST ITEM NO. 29 PAGE NO. 1 OF 41 Exhibit P-3a INDIVIDUAL MODIFICATION

CORRECTION OF DISCREPANCIES IDENTIFIED DURING PRELIMINARY EVALUATION, SUBSEQUENT FLIGHT TEST PROGRAMS AND FLEET OPERATIONS (OSIP 11-84) MODIFICATION TITLE

MODELS OF SYSTEM AFFECTED: SAFETY /RELIABILITY/IMPROVEMENT F/A-18 A/B/C/D TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

*Corrections to discrepancies found during testing and evaluation can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into already delivered aircraft requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofitting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required:

External Stores EMI Protection (ECP 087S1) Auto AC Bus Isolation (ECP 121R1) Battery Control Relay Unit (ECP 165R1) FY86 Block Upgrade (ECP 178R1C1) Center Fuselage Structural Mods (ECP 241R1) Dorsal Longeron (ECP 251) Dorsal Longeron (ECP 251R1) 470.5 Bulkhead (ECP 262)* Righthand AMAD Bay (ECP 267)* Y508 Former (ECP 276) AC Bus Wiring MOD (ECP 284) AFT Engine Mount (ECP 305R1)* 7657.35 Engine Bay Door Former (ECP 306)
Main Landing Gear (MLG) Planing Link (ECP 311)* MLG Trunnion Upgrade (ECP 319) Y488 Bulkhead (ECP 320)
Deployable Flight Incident Recorder (ECP 321) Wing Fatigue Repair (ECP 353)
MLG Shoulder Belt (ECP 355) ASPJ System Improvement (ECP 364) Y470 Bulkhead Improvement (ECP 365) #1 Fuel Cell Floor (ECP 367) MLG Retract Actuator (ECP 375)
Fretting on Formers & Spindles (ECP 391)
Wing Attach Longeron Improvement (ECP 393) Fuselage Skin, Y518 to Y534 (ECP 402)*

Fuselage Skin, Y518 to Y534 (ECP 402R1)* Encoder/Decoder Silicone Gasket (ECP 414) Inlet Duct Skin at Y453 (ECP 417) Y470.5 Bulkhead MLG Trunnion (ECP 428) Speed Brake Trough (ECP 440) Outboard Aileron Improvements (ECP 463R1) Outboard Alleron Improvements (ECP 463R1) SUL-63 Wing Pylon Door Panel (ECP 488) Y470.5 Bulkhead Fatigue Change (ECP 492) Fuselage Skin at Y453 (ECP 498) Nacelle Skin Fatigue Improvements (ECP 501) LAU-115 Sparrow Mod (ECP 506)*

ST-16 Failures (ECP 536)* Improvement of Inner Wing SPAR (ECP 544) Fuel Barrier Web (ECP 548) Wing Drag Longeron (ECP 550)* Y326.5 Plate Nut (ECP 561) Lower Center Keel Fire Hazard (ECP 562) Aileron/Trailing Edge Flap (ECP 574) Flight Control Computer (ECP 595)

Hydraulic Temp Gauges (ECP XXX)
Environment Control System Wiring (NI 742) Wing Fuel Dams (NI 796) MLG Trunnion Assembly (NI 824) Heat Exchanger (NI 827) Night Vision Display System (NVDS) (NI 830) Trailing Edge Flap (NI 839) Birdstrike Res Windshield (NI 843)

Aileron Hinge Mod (NI 844) ANTI G VALVE (ECP XXX) Fuel Cell Floor Crack (ECP XXX) Side Fuselage Crack (ECP XXX)
Bay 3 & 4 Shelf Improvement (ECP XXX)
Front SPAR Crack (ECP XXX)

Forward Lower Keel Modification (ECP XXX) Main Landing Gear (MLG) Axle (ECP XXX)

MLG Y488 Bulkhead (ECP XXX) LOX OBGS Conversion (ECP XXX)

Provide for the application of external stores EMI Protection.

Modifies the 50A Battery Charging Converter installation to automatically isolate the busses and reset the generators following a dual power outage.

Safety modification to the utility/emergency battery control circuits and adds a battery relay control unit. Prevents inadvertent battery discharge. Increases the power handling capabilities of the four port antenna and the RF switchable filter in order to accommodate the RF power output requirements of the ASPJ System.

Improves fatigue for the Dorsal Deck. Duct Skin rivets at Y442. ECS Inlet Casting, and Y419 Nacelle Former at Ramo Truss Attachment.

Life extension modification to the Dorsal Longeron. Life extension modification to the Dorsal Longeron. Improves the fatigue life of the Y470.5 Bulkhead Outer Cap. Reliability and maintainability improvement to the interference between the motive flow tube and the hot fuel recirculation tube.

Structural improvement of the Y508 Former by increasing the flange thickness and reinforcing the former with integral ribs. Reliability and maintainability improvement to the common cable routing of the primary/backup AC power distribution wires.

Safety modification improves the aft engine mount support to prevent cracking in the aft engine mount support fitting.

Modifies the existing door former to prevent cracking.

Safety modification to the existing planing link assembly. Belleville washers spring is replaced with nested external compression springs to provide additional overcenter locking force and stroke capability.

Safety modification reconfigures and strengthens the MLG trunnion assembly to prevent catastrophic failure upon landing or takeoff.

Modifies the Y488 bulkhead to reduce structural stress and improve fatigue life.

Adds a Deployable Flight Incident Recorder Set (DFIRS) to provide nonvolatile storage of the last 30 minutes of flight incident data in a deployable unit.

Modifies the fastener holes in the Wing Panel Forward Spar and the #4 Intermediate Wing Spar to increase fatigue life.

Safety modification provides new shoulder bolts to correct a deficiency concerning elongation of the AFT bolt hole in the MLG Door Actuator Support Fitting.

Improves reliability and maintainability by improving the cooling system and correcting transmit switchable filter gual test problem

Modifies the Y470 bulkhead to reduce structural stress and improve fatigue life.

Safety modification to improve the fuel cell floor strength to prevent cracking during catapult.

Redesigns the MLG Retract Actuator Support Fitting and the Flange of Y470.5 Bulkhead where the fitting attaches and revises hydraulic timing to lengthen the Fatigue Life of the structures.

Safety modification to correct fretting observed on outboard formers of horizontal stabilizer.

Improves the fatigue of the longeron.

Modifies exterior fittings and adds and internal bathtub to strengthen the area, reduce structural stress, and improve fatigue life. Modifies exterior fittings and adds and internal bathtub to strengthen the area, reduce structural stress, and improve fatigue life.

Safety modification to the existing access cover to eliminate fuel leaks from the integral wing tanks into the fuselage encoder/decoder.

Addresses the retrofit design which will provide 12,000 SFH of life without cracks for the Inlet Duct Skin. Corrects the deficiency in the MLG Trunnion support at Y470.5 bulkhead. Modifies the existing speed brake trough area to strengthen it and improve fatigue life.

Reliability and maintainability improvement to the existing aileron hinge and hinge fairing to increase fatigue life.

Reliability and maintaination improvement to me existing almost minge and minge famility to increase rangue Safety modification to the existing door panel to preclude loss of the door during flight Modifies the thickness of the existing bulkhead web to increase strength and improve fatigue life. Safety modification to strengthen existing fasteners attaching the P/N 74A324350 former to Y453 bulkhead. Retrofits the Inlet Nacelle Skin to correct acoustic vibration related fatigue failures.

Modifies aircraft between Lot VI and Lot XVI ro realize Full Life Airframe (6000 Fatigue Hours)

Strengthens the existing inner wing spar to improve fatigue life.

Safety improvement to the existing fuel barrier web to prevent fuel leaks.

Structural improvement to the Wing Drag Longeron due to tabs attached to the closeout webs were cracking during installation.

Modifies the existing fasteners at the Y326.5 Bulkhead to improve fatigue life.

Safety improvement to the secondary pressure regulator bay to eliminate fire hazards.

Provides a full-life improvement for aircraft degradation caused by cracked trailing edge flap and aileron hinges.

Improves safety-of-flight for the recovery from, and resistance to, out-of-control flight (OOCF) while also eliminating anomalies cited in FCC OFP 91C*004

Improves the reliability of the hydraulic temperature gauges.

Modifies wiring to the number 3 Relay Panel Assy to connect the Left Main Gear (LMG) Weight on Wheels (WOW) Relay ABD the Dump/RAM Dump Relay

Safety improvement modifies the inner wing inboard closure rib to prevent fuel leaks.

Safety improvement to the MLG trunnion assembly to improve fatigue life and prevent failed landing gear mishaps.

Provides for the removal of the nickel core and replaces with a more reliable stainless steel and nickel core

Adds capability to the lighting system to make the NVDS compatible.

Safety modification to the trailing edge flap to correct flap departures while in flight. Safety modification to the windshield to protect against birdstrikes during flight.

Provide a full-life improvement for aircraft degradation caused by cracked trailing edge flap and aileron hinges.

Improves pilot G-Load tolerance as part of the Navy Combat Edge (NCE) Anti-G Protection System.

Safety modification to correct cracks at Y431, Y442, and Y453 in the fuel cavity floor deck centerline under tank two and three.

Safety improvement to the fatigue life of the forward skin section of the chem-milled panels. Supports retrofit of Interrogator Transponder (CIT) Identification Friend or Foe (IFF) system into the F/A-18 Weapon System. Strengthens the existing front inner wing SPAR to improve fatigue life.

Improves fatigue life of the Nose Landing Gear (NLG) Drag Brace.

Incorporation of Full Life redesigned Main Landing Gear Axle Polygon, extending Axle's service life from current 8300 total landings to 13000.

Restores Full Life to Y488 Bulkhead due to cracks around MLG Uplock hardware holes

Retrofit LOX equipped aircraft with OBOGs solutions that are integrated with supplemental oxygen systems

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.

FCPs Jax 021 Jax 032 and 342 were moved to OSIP 1994

ECP 536 moved from OSIP 11-99 to OSIP 11-84 in FY02. No installs currently planned; possible in future.

Unit cost variances due to: - Many ECP Kits were/are provided to the Navy at no additional costs (warranty kits).*

- Some ECPs have numerous Technical Directives with different unit costs.

ATION TITLE:	CORREC	TION OF	DISCRE	PANCIES	IDENTIFI	ED DUKIN	G PRELIN	IINARY E	VALUATI	ON, SUB	SEQUENI	FLIGHT	TEST PR	OGRAMS	AND FLE	ET OPE	RATIONS	(OSIP 11-	·84)			
OF SYSTEM AFFECTED:	F/A-18 A	/B/C/D									-	TYPE MOE	DIFICATION	Ŀ	SAFETY	/RELIAB	ILITY/IMP	ROVEME	NT			
L PLAN (TOA, \$ in Millions):	Prior	Years	FY	2002	FY	2003	FY	2004	FY:	2005	FY:	2006	FY:	2007	FY 2	2008	FY	2009	To Co	molete	TC	TAI
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
&E CUREMENT																			├──		—	
allation Kits																						
CP 087S1/External Stores EMI Protection																					-	
CP 121R1/Auto AC Bus Isolation CP 165R1/Battery Control Relay Unit	356 251	0.7																	├		├	-
CP 178/FY86 Block Upgrade	82	4.7																				-
CP 241R1/Center Fuselage Structural Mods	1,719	0.6																				
CP 251/Dorsal Longeron CP 251R1/Dorsal Longeron	1,926 443	0.8 8.6																	├		├	-
CP 262/470.5 Bulkhead	494	0.0																				_
CP 267R1/Righthand AMAD Bay	287																					
CP 276/Y508 Former	836	1.0																	├		├	-
CP 284/AC Bus Wiring MOD CP 305/AFT Engine Mount	619																					_
CP 306/Y657.35 Engine Bay Door Former	688	0.9																				
CP 311/Main Landing Gear (MLG) Planing Link	10	:	-	-			 	-	-		 	-		-	1	-	 		├	-	├	
CP 319/MLG Trunnion Upgrade CP 320/Y488 Bulkhead	1,405 473	1.2		†			 	†			 		-		-		 		$\vdash \vdash$	†	\vdash	
CP 321/Deployable Flight Incident Recorder																						
CP 353/Wing Fatigue Repair	98	0.7					!	1	ļ		!				ļ		!		₽		₽	+
CP 355/MLG Shoulder Belt CP 364/ASPJ System Improvement	350	0.2		+			†	+			 	 	-			 	†		\vdash	+	\vdash	+
CP 365/Y470 Bulkhead Improvement	982	1.0																				
CP 367/#1 Fuel Cell Floor	557	0.3					!	1	ļ		!				ļ		!		₽		₽	+
CP 375/MLG Retract Actuator CP 391/Fretting on Former's & Spindles	1,323 582	5.7 0.3					 	-			 	-				 	 				 	+
CP 393/Wing Attach Longeron Improvement	JUL	0.0																				-
CP 402/Fuselage Skin, Y518 to Y533	638	0.0																				
CP 402R1/Fuselage Skin, Y518 to Y534 CP 414/Encoder/Decoder Silicone Gasket	638	1.2			82	0.7													├		├	-
CP 417/Inlet Duct Skin at Y453	575	2.0																				
CP 428/Y470.5 Bulkhead MLG Trunnion	2	0.1																				
CP 440/Speed Brake Trough CP 463R1/Outboard Aileron Improvements	591	1.0																	├		├	-
CP 488/SUU-63 Wing Pylon Door Panel	1,351	0.8																				-
CP 492/Y470.5 Bulkhead Fatigue Change	688	1.4																				
CP 498/Fuselage Skin at Y453 CP 501/Nacelle Skin Fatique Improvements	603 663	0.5 3.7	50	0.1	43	0.1													├		├	-
CP 506/LAU-115 Sparrow Mod	935	3.7																				-
CP 536/ST-16 Failures	9								20	3.0												
CP 544/Improvement of Inner Wing SPAR CP 548/Fuel Barrier Web	29 750	0.3 1.4																	├		├	-
CP 550/Wing Drag Longeron	119	0.2	100	0.3	100	0.3	50	0.2	50	0.2												_
CP 561/Y326.5 Plate Nut	532	0.2																				
CP 562/Lower Center Keel Fire Hazard CP 574/Trailing Edge Flaps	642 334	0.2 8.9	156 50	0.2 1.3	32	1.0													├		├	-
CP 574/Aileron	481	12.2	130	3.7	80	2.6	50	1.7	81	2.8												_
CP 595/Flight Control Computer						2.3																
II 742/Environment Control System Wiring			150	0.2	100	0.1	100	0.1	100	0.2									├		├	-
Il 796/Wing Fuel Dams	215	0.3	90	0.1	84	0.2	43	0.1	29	0.1												
II 824/MLG Trunnion Assembly	516	13.4																				
II 827/Heat Exchanger II 830/Night Vision Display System (NVDS)	37 14	0.4					 	-	-		 	-					 		\vdash		\vdash	+
II 839/Trailing Edge Flap	1,150	9.4					t				t				l		t					t
II 843/Birdstrike Res Windsheild							l		ļ		[l		l		L		L	
II 844/Aileron Hinge Mod CP XXX - ANTI G VALVE	800	1.0	l	-		-	1	-	-		 	-			 	-	1	-	 	-		+
CP XXX - Tank 2 & 3 Floor Crack	800	1.0	150	0.8	75	0.4	10	0.1	40	0.2												L
CP XXX - Bay 3 & 4 Shelf Improvement			150	0.3	50	0.1	20	0.1	25	0.1	[l		l		L		L	
CP XXX - Front SPAR Crack CP XXX - Forward Lower Keel Modification		-	l	-	50 40	1.0	25 40	0.6	25 65	0.6 1.4	 	-			 	-	1	-	 	-		+
CP XXX - Polward Lower Reel Modification					120	4.8	73	3.1	168	7.4												t
CP XXX - MLG Y488 Bulkhead				\perp			100	0.3	100	0.3	\sqcup						L		\vdash	\perp	\vdash	\perp
CP XXX - LOX OBGS Conversion		l	·				I	1	1		I	l			·	l	I	l				
allation Kits N/R allation Equipment		5.9		6.0		0.3					1											
allation Equipment N/R																						
gineering Change Orders a		1.2	-	0.1		0.1	 		-	.		-			1	-	 	-	├	-	├	₩
ining Equipment				V.1		3.1																L
port Equipment	-	1.5 51.7		40.0	_	45.5	<u> </u>	14.4	\perp	13.5	\perp					\vdash	<u> </u>		\vdash	<u> </u>	\vdash	┿
s er Support	l	51./	1	16.0		15.5	+	14.4	†	13.5	 	l	l	-	l	l	!		†	 	†	
rim Contractor Support																						
tallation Cost	15,069	170.3	1,112	25.0	1,457	28.4	1,229	22.4	954	15.7												

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	AN/ARC-210 ELECTRONIC PROTECTION (EP) COMBINATION RADIO (OSIP 39-92)		
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D	TYPE MODIFICATION:	CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 (ORD# 486-88-93) is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for carrier based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. F/A-18 ARC-210 requirements will be satisfied by retrofitting Lot X through Lot XXI.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

F/A-18 was the lead aircraft for the AN/ARC-210 development program; therefore, retrofit procurement began in FY92. AN/ARC-210 Milestone III was approved in April 1994. First article test completed in January 1994. The additional requirements shown in this budget for FY2001 - 2004 reflect the fleet's desire for a common communications capability for Lots X and above F/A-18C/D. ARC-210 radios removed from other aircraft during DCS upgrade will be installed in F/A-18C/D Lots X and XI.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY:	2003	FY	2004	FY:	2005	FY:	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot XII through XXI Kit	79	1.3																				
Lot X through XI Kit	96	2.8	45	1.2																		
Installation Kits N/R		0.8																				
Installation Equipment **																						
Lot XII through XXI Kit	114	5.6																				
Lot X through XI Kit																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.3																				
Training Equipment																						
Support Equipment																						
ILS		0.2		0.1		0.1		*														
Other Support																						
Interim Contractor Support																						
Installation Cost	97	2.2	22	0.6	60	1.4	41	1.1														
TOTAL PROCUREMENT		13.1		1.8		1.5		1.2														

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. ** Quantities refer to number of radios (2/aircraft). The equipment and common logistics requirements for this OSIP have been funded in the AN/ARC-210 Common OSIP (4-94) starting in FY94.

xhibit P-3a																						
MODELS OF SYSTEMS AFFECTED:		F/A-18 (C/D					N	ODIFICAT	ION TITLE	:	AN/ARC	-210 ELE	CTRONIC	PROTEC	CTION (EP	COMBIN	ATION R	ADIO (OS	IP 39-92)		
NSTALLATION INFORMATION:																						
METHOD OF IMPLEMENTATION:		PUBLIC	/PRIVAT	E COMPI	TITION A	ND AT N	AVAL A	VIATION E	DEPOTS.													
DMINISTRATIVE LEADTIME:			6	Months					PRODUC	TION LEA	DTIME:				24	Months						
ONTRACT DATES:	EV 2002.						EV 2002						EV 2004				- FV 2005					
ONTRACT DATES:											_		FY 2004				FY 2005:			-		
ELIVERY DATE:	FY 2002:		Ma	ar-03	_		FY 2003:		Ma	ar-04	_		FY 2004				FY 2005:					
											(0.1. 1.000)											
Cost:	Prior	Years	EV	2002	FY 2003		EV	2004	EV	2005	(\$ in Millio	ons) 2006	EV	2007	EV	2008	FY:	2000	To Co	molete	TC	TAL
COSt.	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2000 & PY (175) kits	97	2.2	22	0.6	56	1.3																
FY 2002 (45) kits					4	0.1	41	1.1														
FY 2003 () kits																						
FY 2004 () kits FY 2005 () kits			1		+							-		-			1				1	-
FY 2006 () kits												1					1					+
FY 2007 () kits																						
FY 2008 () kits																						
FY 20097 () kits																						
To Complete () kits																						
TOTAL	97	2.2	22	0.6	60	1.4	41	1.1														
Installation Schedule																						
FY 2000		2002			FY 2				FY 2					2005			FY 2					
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	ļ		
In 97 4 Out 97 4	6	6	6	0	20 20	20 20	20 20	0	15 15	15 15	11	0	0	0	0	0	0	0	0	ł		
Out 97 4	ь	6	ь	U	20	20	20	U	15	15	- 11	U	U	U	U	U	U	U	U	l		
FY 2	2007		1	FY	2008			FY:	2009		т -	То			1							
1 2	3	4	1	2	3	4	1	2	3	4		nplete	TC	TAL								
In 0 0	0	0	0	0	0	0	0	0	0	0		0		20								
Out 0 0								0						20								

Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	COMMON CONFIGURATION (OSIP 19-94)			
MODELS OF SYSTEM AFFECTED:	F/A-18 A/B/C/D		TYPE MODIFICATION:	CAPABILITY IMPROVEMENTS / SAFETY

DESCRIPTION/JUSTIFICATION:

The F/A-18 Cockpit Video Recording System (CVRS) requires an upgrade to improve operational debriefing, increase resolution and recording time, and improve fleet training. During Operation Desert Storm, deficiencies of the current F/A-18 CVRS became obvious. The current CVRS consists of one monochrome camera, a video tape recording (VTR) panel switch, and a 3/4 inch tape recorder. The replacement CVRS consists of three color cameras, a VTR panel switch and the WH-8MM recorders. Also included in the new system is an enhanced ground playback station that will allow the simultaneous playback of four images from two separate aircraft. Replacement of the current CVRS in the F/A-18 will provide the display from the right Digital Display Indicator (DDI) and either the Heads-Up Display (HUD) or the left DDI simultaneously in color, greater commonality with existing commercial and private playback equipment, increased recording time, enhanced resolution and an overall reduction in system size and weight. The AN/AYK-14(V) Very High Speed Integrated Circuit (VHSIC) Processor Module has three important features: a new computer chassis, VHSIC processor cards and 1M/W memory on the processor cards that allows necessary growth through the 1990's and beyond. With the F/A-18 C/D out of production one year earlier than originally projected, it has created requirements in the Modification Budget Activity. These additional requirements are ancillary equipment (Targeting Forward Looking Infrared (FLIR), BRU-55 smart weapons and bomb rack, and Digital Storage Units (DSUs)), logistics support, SE, and Operational Flight Program (OFP) software. VPM - "O" Level installs. ECP JAX 023 (High Altitude Laser), ECP JAX 021(NAVFLIR Adapter), and ECP 342(AN/ASQ-173 Laser Detector/Tracker) moved from OSIP 11-84 (FY00 & out). The F/A-18 Tactical Automated Mission Planning System (TAMPS) Mission Planning Module (MPM) provides capabilities and displays required by the aircraft planning functions, report, and graphic display options. ATFLIR has mov

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

CVRS utilizes moderately militarized HI-8MM video recorders that are currently available (no development required) with CVRS installed. The AN/AYK-14 is fully developed. It was production incorporated into Lot XV and subsequent F/A-18C/Ds and has had retrofit funding since 1994.

FINANCIAL PLAN (TOA, \$ in Millions):

, i	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY:	2005	FY:	2006	FY:	2007	FY:	2008	FY 2	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
INSTALLATION KITS																						
NI818/CVRS	314	2.9																				
CDII-045/VPM("O"Level")	559	57.0																				·
CDII-051/VPM("O"Level")	217	20.6																				
INSTALLATION KITS N/R		28.5		3.0		4.0																
INSTALLATION EQUIP.																						
NI818/CVRS																						
CDII-045/VPM("O"Level")																						
CDII-051/VPM("O"Level")	291	7.6																				
INSTALLATION EQUIP. N/R																						
ENGINEERING CHANGE ORDERS																						
DATA		3.8																				
TRAINING EQUIPMENT		0.3																				
SUPPORT EQUIPMENT(SE NR, PSE,	SE ILS)	35.0		8.5		8.6		0.8		0.1												
ILS		3.3		1.2		1.8																
OTHER SUPPORT																						
INTERIM CONTRACT SUPPORT																						
Installation Cost	647	5.9	80	0.3																		
TOTAL PROCUREMENT		164.8		13.0		14.3		0.8		0.1												

Notes

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																								
MODELS OF S	YSTEMS AFFEC	TED:		F/A-18 A	/B/C/D					М	ODIFICATI	ON TITLE		соммо	N CONFI	GURATIO	ON (OSIP	19-94)						
METhOD OF IN	MPLEMENTATIO	N:		CVRS -	FIELD M	OD TEAN	l																	
ADMINISTRAT	IVE LEADTIME:						N/A	Months	_		PRODUCT	TION LEAD	TIME:				16	Months						
CONTRACT DA	ATES:		FY 2002:		N	I/A	_	FY 2003:		N/A		_	FY 2004:		N/A		_	FY 2005:		N/A		_		
DELIVERY DAT	ΓE:		FY 2002:		١	I/A	_	FY 2003:		N/A		_	FY 2004:		N/A		_	FY 2005:		N/A		_		
													\$ in Millions	s)										
	Cost:	ĺ		Years		2002		2003		2004	FY:	2005	FY:	2006	FY 2	0076	FY 2	2008		2008		mplete		TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	PY (314) kits		314	4.2																				
FY 2002 (
FY 2003 (
FY 2004 (
FY 2005 (
FY 2006 (
FY 2007 (
FY 2008 (
FY 2009 (
To Comple TOTAL	ete () Kits		314	4.2																				
TOTAL			314	4.2																				
	EV 0004		EV 06	200		Ī	577	2000			EV.	0004			E)/	2005			5//	2000		-		
	FY 2001 & Prior	1	FY 20	3	4	1	2	2003	4	1	FY:	2004	4	1	FY:	2005	4	1	2	2006	4	1		
In	314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Out	314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
	011																		·			4		
Г		FY 200	7		T	FY	2008		1	FY:	2009		Т	0	1		1							
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO	TAL								
In	0	0	0	0	0	0	0	0	0	0	0	0	0		3		1							
Out	0	0	0	0	0	0	0	0	0	0	0	0	0		3		1							
000	ŭ																ı							

Exhibit P-3a																								
MODELS OF	SYSTEMS AFFEC	CTED:		F/A-18 A	/B/C/D					_ M	ODIFICAT	ION TITLE		СОММО	N CONF	IGURATI	ON (OSIP	19-94)						
METhOD OF I	MPLEMENTATIO	N:		TFLIR -	FMT																			
ADMINISTRA'	TIVE LEADTIME:					5	Months	_			PRODUC	TION LEAD	OTIME:				16	Months	•					
CONTRACT D	ATES:		FY 2002:		1	N/A	_	FY 2003		N/A		_	FY 2004:		N/A		_	FY 2005:		N/A		_		
DELIVERY DA	TE:		FY 2002:		1	N/A	_	FY 2003:		N/A			FY 2004:		N/A		_	FY 2005:		N/A				
										Millions)						·				·				
	Cost:			Years		2002		2003		2004		2005	FY:			2007	FY:			2009		mplete		TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 FY 2002	& PY (413) kits*		333	1.7	80	0.3																		
FY 2002 FY 2003																	<u> </u>							
FY 2003																								
FY 2005																								
FY 2006																								
FY 2007																								
FY 2008																								
FY 2009																								
TOTAL	lete () kits		333	1.7	80	0.3	<u> </u>						ļ			-	<u> </u>						<u> </u>	ļ
TOTAL			333	1.7	00	0.3							l .				l .							
Installation		Prior year i	nstall purcha		OSIP 11-8	4																-		
	FY 2001 & Prior	- 1	FY 20			<u> </u>		2003	1 4			2004	1 4	1		2005	1 1			2006	1 4	4		
llo	& Prior 333	1 36	2 36	3 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-		
Out	333	36	36	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
			50							·											<u> </u>			
		FY 200	7			FY	2008			FY	2009		Т	o			1							
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL	J							
In	0	0	0	0	0	0	0	0	0	0	0	0)	4	13	1							
Out	,															13								

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	F/A-18 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 36-94)		
MODELS OF SYSTEM AFFECTED:	F/A-18 A/B/C/D	TYPE MODIFICATION:	SAFETY / CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION

GPS (ORD# 401-88-95) is a space-based worldwide radio navigation aid that provides precise position, velocity, and time data under all-weather conditions twenty-four hours a day, and is proposed to replace land-based TACAN. Incorporation of the GPS in the F/A-18 aircraft provides the following: accurate navigation position and velocity, precision close air support, onboard sensor positioning, command and control guidance, search and rescue guidance, accurate all-weather air drops and accurate time standard.

The F/A-18 GPS requirements will be satisfied with EGI by retrofitting the EGI into Lot VI through Lot IX. F/A-18C/D requirements will be satisfied with the Miniature Airborne GPS Receiver (MAGR), by retrofitting Lot XVI, and forward fitting into Lot XVII through Lot XXI.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Embedded Global Positioning System (GPS) and Inertial Navigation System (INS) (EGI) program is a joint multi-user NDI acquisition which achieved Milestone III in FY94. Contract award was 4 March 1994, with Engineering Design Review completed in July 1994.

The Embedded GPS/INS (EGI) system was supposed to be an NDI system, however, it has required a significant amount of development, which has resulted in schedule slips. As a result, F/A-18 has been adversely impacted in the following areas:

- 1. F/A-18A/B/C/D can no longer meet the Congressional mandate to have GPS installed in all A/C by the year 2000.
- 2. F/A-18 Mission Computer S/W testing to incorporate EGI functionality has experienced continual slips due to EGI hardware immaturity.
- 3. The immaturity of the EGI has resulted in a delay of the Validation and Verification (Val/Ver) of the EGI A-Kits in all versions of the F/A-18.
- 4. As a result of the above impacts, a decision was made to install the Miniature Airborne GPS Receiver (MAGR) in F/A-18 C/D Lot X through Lot XVI A/C. MAGR is a lower risk option and has been installed as a forward fit in Lot XVII and above A/C. Since EGI performance has not completed testing, MAGR is the only option that ensures the most rapid, low risk retrofit. This plan results in the least impact to further F/A-18C/D modifications. Furthermore, a decision was also made to continue with the development of the EGI in order to meet GPS requirements for the F/A-18A/B (Lot IX and below). F/A-18 A/B's cannot be retrofitted with a MAGR integration due to space restrictions and airframe differences. In summary, F/A-18 has had to develop new integration plans for GPS that now include the integration of both MAGR and EGI. EGI A-Kits were put on order using FY96/97/98 funding based on an NDI assumption, however due to above mentioned reasons, the EGI A-Kits now need to be converted to MAGR A-Kits with no pricing impact. The procurement of MAGR B-Kits has resulted in F/A-18 not meeting the full funding requirement while protecting the risk and schedule of this high visibility program. PMA-209 (OSIP 71-88) is funding the procurement of a portion of the installation equipment reflected in the total column below which explains the difference between the installation kits and equipment. Increase in NRE funding in FY01 thru 03 due to requirements for increased testing and integration for "B" kits (installation equipment).

FINANCIAL PLAN (TOA, \$ in Millions):

ANCIAL PLAN (TOA, \$ IN MIIIIONS):																						
	Prior	Years	FY	2002	FY 2	2003	FY	2004	FY 2	2005	FY:	2006	FY:	2007	FY	2008	FY 2	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot VI through IX Kit (Note 3)	67	5.1																				
Lot X through XVI Kit	377	5.8	15	0.5	15	0.5																
Installation Kits N/R		33.2		0.8																		
Installation Equipment																						
Lot VI through IX Kit																						
Lot X through XVI Kit	210	6.4	72	2.5	20	8.0	16	0.6	16	0.7												
Installation Equipment N/R																						1
Engineering Change Orders				2.5		0.9				0.5												
Data																						1
Training Equipment		2.0																				1
Support Equipment		1.8																				
ILS		0.8		0.1		0.1		0.2		0.4												1
Other Support																						
Interim Contractor Support																						
Installation Cost	275	6.4	90	2.8	64	1.5	15	0.4	15	0.4												
TOTAL PROCUREMENT		61.4		9.3		3.9		1.2		1.9												

Notes:

- 1. Totals may not add due to rounding
- Asterisk indicates amount less than \$50K
- 3. Not all "A" kits procured in FY91 to 98 were installed due to technical issue addressed above.

MODELS OF SYSTEMS AFFECTED: FA-18 ALBIC/D MCDIFICATION TITLE: FA-18 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 36-94) METHOD OF IMPLEMENTATION: Navy Depot Field Mod Team at Five (5) Locations Navy Depot Field Mod Team at Five (6) Locations Navy Depot Field Mod Team at Five (6) Locations Nav	Exhibit P-3a																								
Martho OF IMPLEMENTATION: Navy Depot Field Mod Team at Five (5) Locations PRODUCTION LEADTIME: 18 Months PRODUCTION LEADTIME: 18 Months PY 2005: PY 2006: PY 2	MODELS OF S	YSTEMS AFF	ECTED:		F/A-18 A	VB/C/D					M	ODIFICATI	ON TITLE:		F/A-18 G	LOBAL	POSITION	ING SYS	TEM (GPS)	(OSIP 36	-94)				
Martho OF IMPLEMENTATION: Navy Depot Field Mod Team at Five (5) Locations PRODUCTION LEADTIME: 18 Months PRODUCTION LEADTIME: 18 Months PY 2005: PY 2006: PY 2	INSTALLATION	INFORMATION	ON:																						
ADMINISTRATIVE LEADTIME: FY 2002					News De	mat Field	d Mad Ta	4 Fiv	- (E) I	-4!															
CONTRACT DATES: FY 2002 Man-02 FY 2003 Men-03 FY 2004: FY 2005: DELIVERY DATE: FY 2002 Sep-03 FY 2003 Sep-04 FY 2004: FY 2005: Cost:	METHOD OF IN	IPLEMENTA	IION:		Navy De	pot Field	a woo rea	am at Fiv	e (5) LOC	ations															
DELIVERY DATE: FY 2002: Sep-03 FY 2003: Sep-04 FY 2004: FY 2005: Sep-04 FY 2005: Sep-04 FY 2005: Sep-04 FY 2005: Sep-04 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL FY 2007 Sep-04 FY 2007 Sep-04 FY 2007 Sep-04 Sep	ADMINISTRATI	VE LEADTIM	E:					6	Months			PRODUC	TION LEAD	OTIME:				18	Months	_					
Cost	CONTRACT DA	TES:		FY 2002:		Ma	ar-02	_	FY 2003:		Mar	-03	-	FY 2004:					FY 2005	:			_		
Cost	DELIVERY DAT	E:		FY 2002:		Se	p-03	_	FY 2003:		Sep	-04	_	FY 2004:				_	FY 2005	:			_		
PY 2001 & PY (444) kits																									
FY 2001 & FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 Series FY 2004 FY 2005 FY 2006 Series FY 2006 Series FY 2006 Series FY 2007 FY 2008 FY 2009 TOTAL In 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Cost:															2007								
FY 2002 (15) kits FY 2004 () kits FY 2004 () kits FY 2005 () kits FY 2006 () kits FY 2005 () kits FY 2007 () kits FY 2008 () k	EV 2004	9 DV (444)		/		/				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2003 (15) kits FY 2004 (1) kits FY 2006 (2) kits FY 2006 (3) kits FY 2007 FY 2007 FY 2008 FY 2009 TO A Complete TOTAL IN A COMPLETE TOTAL I			KIIS	2/5	6.4	90	2.8	64	1.5	15	0.4										1	-	1	1	1
FY 2006 () kits										10	0.4	15	0.4												
FY 2005 () kits													0.1						Ì						
FY 2006 () kits																									
FY 2008 () kits																									
FY 2009 () kits TO Complete (188) kits TOTAL Installation Schedule FY 2001 FY 2002 FY 2003 FY 2003 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 3 4 4 4 4 4 3 3 4 4 4 4 4 0 0 0 0 0 0 0																									
To Complete (188) kits TOTAL																									
TOTAL																									
FY 2001		olete (188) ki	ts																						
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 3 4 1 4 4 4 4 1 4 1 4 1 4 1 4 1 4	TOTAL			2/5	6.4	90	2.8	64	1.5	15	0.4	15	0.4												
& Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 4 4 3 4 4 4 0 </td <td></td> <td></td> <td>Schedule</td> <td></td> <td>_</td> <td></td> <td></td>			Schedule																				_		
In																									
Out 275 22 22 23 23 14 15 18 17 3 4 4 4 4 4 4 4 4 4 4 4 4 4 0 0 0 0 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 0 0 0 0 0 0 0 0 188 647	D .										1				1				1	_			4		
FY 2007 FY 2008 FY 2009 To TOTAL 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 0 0 0 0 0 0 0 0 0 0 0 0 188 647	In Out										-												4		
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 0 0 0 0 0 0 0 0 188 647	Out	2/0	22	22	23	23	14	15	10		٥	4	4	4	J	4	4	4	U	U	U	U	J		
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 0 0 0 0 0 0 0 0 0 0 0 0 647			FV 2	2007		1	FV '	2008		I	FV 2	000			Γο			1							
In 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 88 647		1 1			4	1			4	1	2		4			TO	TAL								
	In	0				0	_			0	0							1							
	Out					0												1							

Exhibit P-3a	INDIVIDUAL MODIFICATION
EXHIBIT I - GG	INDIVIDUAL MODII ICATION

F/A-18 C/D

AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94)

TYPE MODIFICATION:

CAPABILITY IMPROVEMENT

MODELS OF SYSTEM AFFECTED:

MODIFICATION TITLE:

DESCRIPTION/JUSTIFICATION:

The F/A-18 radar (AN/APG-65), requires an upgrade to improve electronic counter-countermeasure (ECCM) performance against improved threat electronic countermeasures (ECM). This threat ECM improvement has partially resulted from compromises in the F/A-18 radar performance against various threat electronic warfare systems. The AN/APG-73 radar follows and capitalizes on AN/APG-70 and AN/APG-71 developmental and value engineering programs to maximize shop replaceable assembly (SRA) commonality. ORD # 199-05-88 (Radar Upgrade Phase I) and ORD # 022-05-83 (Radar Upgrade Phase II).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the AN/APG-73 was incorporated into Lot 16 (Block 43) and subsequent aircraft. Rug Phase I was approved for full rate production of retrofit units in September 1996. This OSIP reflects retrofit of Lot 14 through Lot 16 (Block 42) aircraft. A Pre-planned Product Improvement (P3I) Phase II to the RUG program developed improved hardware and software for an all-weather Reconnaissance (RECCE) strip map mode. Additional modes can be incorporated with software changes as required in the future. Development of RUG Phase II completed in FY 1998 and retrofit procurements began in FY 1999.

FINANCIAL PLAN (TOA. \$ in Millions):

ANYOIDE FENTAL (TOA, 4 III WIIIIIOTIS).																						
	Prior	r Years	FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (0204136N/E2065)		293.0				4.1																
PROCUREMENT																						
Installation Kits																						
ECP 508 / RUG - Phase I Kit	58	103.0																				
ECP 569 / RUG - Phase II Kit	26	10.0	3	1.2	5	1.8																
Installation Kits N/R		5.6																				
ECP 508 / RUG - Phase I Kit																						
ECP 569 / RUG - Phase II Kit																						
Installation Equipment																						
ECP 508 / RUG - Phase I Equip																						
ECP 569 / RUG - Phase II Equip																						
Installation Equipment N/R		2.2																				
Engineering Change Orders																						
Data																						1
Training Equipment																						
Support Equipment		4.1																				
ILS		10.7		1.8		2.2		0.2														
Other Support																						
Interim Contractor Support																						
Installation Cost	26	0.5	18	0.5	7	0.1	7	0.1														
TOTAL PROCUREMENT		136.1		3.5		4.1		0.3														ı

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

MODELS OF SYSTEMS AFFECTED: METHOD OF IMPLEMENTATION: ADMINISTRATIVE LEADTIME: F/A-18 C/D MODIFICATION TITLE: MODIFICATION TITLE: MODIFICATION TITLE: AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94) AN/APG-73 RADAR UPGRADE (RUG) PHASE II (OSIP 38-94)																										Exhibit P-3a
Pase	Exhibit P-3a																									
ADMINISTRATIVE LEADTIME: A Months	MODELS OF SYSTEMS AFFECTED: F/A-18 C/D							_	MODIFICATION TITLE: AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-9											IP 38-94)						
CONTRACT DATES: FY 2002 FY 2003 FY 2004 FY 2005 FY 2005 FY 2006 FY 2007 FY 2006 FY 2007 FY 2008 FY 2009 TO Complete TOTAL FY 2001 6 PY 601 Nis	METHOD OF	IMPLEMEN	ITATION:		Phase I	kits are	Depot Le	vel; Pha	se II kits	are Orga	nization	level. Sc	hedule b	elow ref	lect RUG	Phase I i	installs o	nly.								
DELIVERY DATE: FY 2002: FY 2003 FY 2004: FY 2005: Sin Millions) Cost	ADMINISTRATIVE LEADTIME: 4 Months							PRODUC	TION LEAD	OTIME:		18 Months														
Cost	CONTRACT DATES: FY 2002: FY 2003:						FY 2004: FY 2005:												=							
Cost	DELIVERY DA	ATE:		FY 2002:				_	FY 2003				_	FY 2004	:	FY 2005:							_			
Complete (a) kits													(5	\$ in Millions	s)											
FY 2001 & FY (58) kits		Cost: Prior Years FY 2002 FY 2003										FY	2005	FY	2006	FY	2007	FY	2008	FY 2009		To Complete		TOTAL		
FY 2002 (0) kits								Qty		Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2004 (0) kits			ts	26	0.5	18	528	7	0.1	7	0.1															
FY 2004 (0) kits				-				1		1								1							\vdash	
FY 2006 (0) kits FY 2008 (0) kits FY 200				1				1																	\vdash	
FY 2007 (0) kits																										
FY 2008 (0) kits																										
FY 2009 (0) kits To Complete (0) kits ToTAL 26																										
To Complete (0) kits																									└	
TOTAL 26				-				1		1								1							\vdash	
Sin Millions Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 Schedule		cic (o) kito	,	26	0.5	18	528	7	0.1	0.0	0.1	ł		ł						ŀ					$\vdash \vdash \vdash$	
FY 2001 FY 2002 FY 2003 FY 2004 FY 2006 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				(\$ in				•																		
8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 1 2 3 4 1 1 1 1 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Installation	Schedule																								
In 26 4 6 3 5 2 3 2 0 2 3 2 0 0 0 0 0 0 0 0 0 0 0 0 0												FY	2004		FY 2005					FY	2006					
Out 26 4 6 3 5 2 3 2 0 2 3 2 0			1				1				1		_		1	2	_		1							
FY 2007 FY 2008 FY 2009 To TOTAL 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 0 0 0 0 0 0 0 0 0 0 0 0 0 0 58	In Out																									
1 2 3 4 1 2 3 4 1 2 3 4 1 Complete TOTAL In 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 58										0	2	3	2	0	0	0	0	0	0	0	0	0	J			
1 2 3 4 1 2 3 4 1 2 3 4 1 Complete TOTAL In 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 58	ı	FY 2007 FY 2008							I	FY	2009			To			1									
		11						1	2		4			то	TAL											
Out 0 0 0 0 0 0 0 0 0 0 0 0 0 0 58		0 0 0 0 0 0 0				0	0 0 0 0)]												
	Out	0	0	0	0	0	0	0	0	0	0	0	0	()		58	j								

Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	POSITIVE IDENTIFICATION SYSTEM (OSIP 12-96)			
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D		TYPE MODIFICATION:	CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The Positive Identification Systems (PIDS) will allow the F/A-18 to positively identify another aircraft. The requirement for positive identification of enemy and friendly aircraft arose from Desert Storm lessons learned and is a CNO high priority issue. Although Lot applicability is back to Lot X, FYDP funding represents an affordable plan. ORD # 446-88-96

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the PIDS (CIT) for the F/A-18 began in FY 1995 with the last block of Lot 19 aircraft. Retrofit kit procurement started in FY1996. Val/Ver kits were installed in FY98. Kit installation began in FY99. PIDS (CIT) had a successful OPEVAL with Software Configuration Set (SCS) 13C.

FINANCIAL PLAN (TOA. \$ in Millions):

	Prior	Years	FY	2002	FY 2	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		89.7																				
PROCUREMENT																						
Installation Kits																						
Lot X through XIX Kit	90	27.9																				
Lot XX through XXI Kit																						
Installation Kits N/R		7.0																				
Installation Equipment (Note 1)																						
Lot X through XIX Kit																						
Lot XX through XXI Kit																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.2																				
Training Equipment		2.7																				
Support Equipment		5.4																				
ILS		2.1		0.1																		
Other Support																						
Interim Contractor Support																·						
Installation Cost	53	4.5	3	0.3	17	1.5	17	1.5														
TOTAL PROCUREMENT		50.9		0.3		1.5		1.5														

Notes

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

FY 2000 & PY (90) kits 53 4.5 3 0.3 17 1.5 17 1.5	Exhibit P-3a																								
ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months PRODUCTION LEADTIME: 18 Months PRODUCTION LEADTIME: 18 Months PRODUCTION LEADTIME: PY 2005: PY 2005: PY 2006:	MODELS OF	SYSTEMS AFFE	CTED:		F/A-18 C/	D						MODIFICAT	ION TITLE	:	POSITIVE	IDENTIFIC	ATION S	YSTEM (O	SIP 12-96)						
ADMINISTRATIVE LEADTIME:	INSTALLATIO	N INFORMATIO	N:																						
FY 2002:	METHOD OF	IMPLEMENTATI	ON:		DEPOT L	EVEL																			
FY 2002:																									
FY 2002:																									
FY 2002:																									
FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL	ADMINISTRA	TIVE LEADTIME	:				6	Months	-			PRODUC	TION LEA	OTIME:				18	Months	-					
(\$ in Millions) Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL	CONTRACT	DATES:		FY 2002:				_	FY 2003				_	FY 2004:				_	FY 2005	:			_		
Cost:	DELIVERY D	ATE:		FY 2002:				_	FY 2003				_	FY 2004:				_	FY 2005	:			_		
City S City S														\$ in Millions	s)										
FY 2000 & PY (90) kits 53 4.5 3 0.3 17 1.5 1		Cost:		Prior '	Years	FY	2002	FY 2003		F	2004	FY	2005	FY	2006	FY 2	007	F١	2008	FY	2009	To Co	omplete	TO	OTAL
FY 2002 (0) kits FY 2003 (0) kits FY 2004 (0) kits FY 2005 (0) kits FY 2005 (0) kits FY 2006 (0) kits FY 2006 (0) kits FY 2007 (0) kits FY 2007 (0) kits FY 2008 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits						Qty					\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2003 (0) kits FY 2004 (0) kits FY 2006 (0) kits FY 2006 (0) kits FY 2007 (0) kits FY 2008 (0) kits FY 2008 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits			3	53	4.5	3	0.3	17	1.5	17	1.5														
FY 2004 (0) kits FY 2005 (0) kits FY 2006 (0) kits FY 2007 (0) kits FY 2007 (0) kits FY 2008 (0) kits FY 2008 (0) kits FY 2008 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits FY 2009 (0) kits		(- /																			ļ		ļ		
FY 2005 (0) kits FY 2006 (0) kits FY 2007 (0) kits FY 2008 (0) kits FY 2008 (0) kits FY 2008 (0) kits FY 2009 (0) kits FY 200																		<u> </u>		1					
FY 2006 (0) kits FY 2007 (0) kits FY 2008 (0) kits FY 2009 (0) kits FY 2009 (0) kits FO Complete (436) kits								-	1			-								<u> </u>	1	+	1	+	+
FY 2007 (0) kits FY 2008 (0) kits FY 2009 (0) kits To Complete (436) kits																						1			
FY 2008 (0) kits FY 2009 (0) kits FY 2009 (0) kits TO Complete (436) kits		- (- /																							
To Complete (436) kits																									
TOTAL 53 45 3 03 17 15 17 15			3																						
101/12	TOTAL			53	4.5	3	0.3	17	1.5	17	1.5														
	l	Installation Sc	hedule																						
Installation Schedule		EV 2001		EV 200	n2		ı	FV ·	2003		1	FV 2	004			FV 2	005		T .	FV 2	2006		7		
			1	2	3	4	1	2	3	4	1	1 2	3	4	1	2	3	4	1	2		4	1		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006	In	53	3	0	0	0	4	4	4	5	4	4	4	5	0	0	0	0	0	0	0	0	1		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 <td>Out</td> <td>53</td> <td>3</td> <td>0</td> <td>0</td> <td>Ō</td> <td>4</td> <td>4</td> <td>4</td> <td>5</td> <td>4</td> <td>4</td> <td>4</td> <td>5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td>	Out	53	3	0	0	Ō	4	4	4	5	4	4	4	5	0	0	0	0	0	0	0	0			
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 <td></td> <td></td> <td>EV 200</td> <td>.7</td> <td></td> <td></td> <td>FV</td> <td>2000</td> <td></td> <td></td> <td>FV</td> <td>2000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			EV 200	.7			FV	2000			FV	2000						1							
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 4 <td></td> <td>1 1</td> <td></td> <td></td> <td>4</td> <td>1</td> <td></td> <td></td> <td>4</td> <td>1</td> <td></td> <td></td> <td>4</td> <td></td> <td></td> <td>TOT</td> <td>ΔI</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		1 1			4	1			4	1			4			TOT	ΔI								
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 4 4 4 5 0 <td>In</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	In																	1							
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1	Out	0	0	0				0			0	0						1							
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior				,					_								-								

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	DIGITAL COMMUNICATIONS SYSTEM (DCS) (OSIP 10-99)		
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D (Lots 10-21)	TYPE MODIFICATION:	CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The Digital Communications System (DCS) consists of an upgraded AN/ARC-210 Receiver Transmitter (RT) [with embedded digital message transfer capability and embedded Communications Security (COMSEC)] installed in the F/A-18 and integrated with the F/A-18 weapons system [mission computer, controls & displays, and communication subsystem]. The DCS utilizes preformatted messages to communicate with standard USMC, USA, and USAF digital communications devices to facilitate Close Air Support (CAS), Deep Air Strike (DAS), and Tactical Air Control (TAC) missions. DCS reduces voice communications requirements which tend to be slow, inaccurate, and susceptible to Meaconing, Interference, Jamming, and Intrusion (MIJI). DCS will enhance mission effectiveness by decreasing pilot workload which allows the pilot more time to counter increased threat capabilities. ORD# 486-88-98.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 RT is being upgraded to a DCS RT. Initial Engineering Developmental Model (EMD) was delivered (using RDT&E,N resources) in FY1998 as scheduled. The F/A-18C/D requirements will be satisfied by retrofitting DCS into Lot X through Lot XXI. Functionality was provided in the Operational Flight Program (OFP) 15C fleet release in FY2000. Initial procurement of installation kits was awarded May 1999. F/A-18C/D Lots X and XI require an ACI and DCS radios are purchased through OSIP 04-94 (PMA-209). "B" Kits (Radios) purchased in FY02 and FY03 through this OSIP are to balance total inventory of radios to installation kits. OSIP 04-94 is purchasing 20 ACIs and installation kits in FY07

FINANCIAL PLAN (TOA, \$ in Millions):

·	Prior	Years	FY	2002	FY	2003	FY	2004	FY:	2005	FY:	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO.	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		0.0																				
PROCUREMENT																						
Installation Kits																						
Lot XII through XXI Kit	157	0.5	39	0.1	32	0.1	36	0.1	60	0.2												
Lot X through XI Kit							72	0.5	31	0.3												
Installation Kits N/R		0.6																				
Installation Equipment																						
Lot XII through XXI Kit ("B" Kit)			14	0.7	26	1.1																
Lot X through XI Kit (ACI)					32	2.2	40	2.7	36	2.5												
Installation Equipment N/R																						
Engineering Change Orders										0.6												
Data		*								*												
Training Equipment		0.6																				
Support Equipment		0.7						0.2		0.2												
ILS		0.7		0.2		0.3		0.2		0.5												
Other Support																						
Interim Contractor Support																						
Installation Cost	4	0.1	57	0.5	60	0.4	56	0.4	51	0.6												
TOTAL PROCUREMENT		3.2		1.4		4.0		4.1		4.7												

- Notes:
 1. Totals may not add due to rounding
- Asterisk indicates amount less than \$50K

chibit P-3a																						
ODELS OF SYSTEMS AFFECTED:		F/A-18 C	/D (Lots	10-21)				N	IODIFICATI	ION TITLE:		DIGITAL	. сомми	NICATIO	NS SYSTE	M (DCS) (OSIP 10-9	9)				
STALLATION INFORMATION:																						
ETHOD OF IMPLEMENTATION:		Navy De	pot Field	d Mod Tea	ım																	
OMINISTRATIVE LEADTIME:				6	Months	=			PRODUC	TION LEAD	TIME:			24	Months							
ONTRACT DATES:	FY 2002:		Ma	ar-02	=	FY 2003:		Mar-03		=.	FY 2004		Jan-04		=	FY 2005		Jan-05		=.		
ELIVERY DATE:	FY 2002:		Ma	ar-04	=	FY 2003:		Mar-05		=	FY 2004:		Jan-06		=	FY 2005		Jan-07		=		
										(\$ ir	Millions)											
Cost:		Years		2002		2003		2004		2005	FY:		FY:			2008		2009		mplete	TO	AL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY (157) kits	4	0.1	57	0.5	60	0.4	36	0.2														
FY 2002 (39) kits FY 2003 (32) kits							20	0.1	19 32	0.2												
FY 2003 (32) kits FY 2004 (108 kits									32	0.4												
FY 2005 (91) kits																						
FY 2006 (44) kits																						
FY 2007 (45) kits																						
FY 2008																						
FY 2009																						
To Complete () kits TOTAL	4	0.1	57	0.5	60	0.4	56	0.4	51	0.6												
Installation Schedule									:		<u>I</u>	<u>I.</u>	ı				ı			l		
FY 2001	FY 20	02			FY 2	2003			FY 2	004			FY:	2005			FY 2	006		Ī		
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	11	2	3	4			
In 4 12	12	16	17	16	16	16	12	18	18	10	10	10	9	16	16							
Out 4 12	12	16	17	16	16	16	12	18	18	10	10	10	9	16	16]		
			1	EV.	2008		1	FY 2	0000			0	ı		T							
EVA				FY:	2 008		1						l		I							
FY 2		4	1		3	4	- 1	2	3	1 1	Com	nlata										
1 2	2007	4	1	2	3	4	1	2	3	4		plete 88		TAL 16								

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	F/A-18 AIRCRAFT STRUCTURAL LIFE MANAGEMENT PLAN (SLMP) (OSIP 11-99) CBR+		
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D	TYPE MODIFICATION:	SAFETY / LIFE EXTENSION

DESCRIPTION/JUSTIFICATION:

Incorporation of structural enhancements and changes is required to attain F/A-18 service life and maintain sufficient aircraft inventory to meet fleet operational requirements through FY2020. Structural enhancements and changes include resolution of discrepancies identified as a result of Structural Test (ST-16) and in-service experience. These enhancements and changes include: modifications to allow the entire airframe to achieve 6,000 spectrum flight hours; modifications to ensure structures currently limited to 78% of design life can achieve 100% life; modifications to ensure landing gear, catapult and arrestment components and associated structure achieve at least 2700 cats/traps; modifications to ensure landing gear and associated structure achieve a total of at least 14,500 landings; to ensure flight control surfaces and associated / attaching components achieve 6,000 spectrum flight hours; to ensure a 30-year service life for primary and secondary structural components of metallic and nonmetallic (composite, polymer, etc) construction. The unacceptable alternative to retrofitting would be the failure to reach full fatigue life for these aircraft and to not correct the structural defects discovered on fatigue test articles. In many cases, the mission capability of the aircraft would be adversely affected in addition to its reduced service life. As a result, aircraft may be prematurely removed from useful service. Center Barrel Replacement Plus (CBR+) is applicable to F/A-18A/Bs as well as to F/A-18C/Ds. Currently F/A-18A/Bs are not in the plan. However, the F/A-18A being retrofitted with upgraded avionics changes may require a service life extension in the future.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Currently all Lot VI through XVII aircraft have 78% life limits without the SLMP modifications to bring them to 100% airframe life. MDA and NGC developed ECP536 retrofit repair to modify these aircraft so they could restore the airframe to full life. ECP 536 has been approved and Validation was completed May 2001. NADEP North Island has developed ECP904NI (CBR+) which was approved on 27 April 2000. Validation started October 2000 and was completed in August 2001. Verification started August 2001 and was completed June 2002. ECP 536 moved from this OSIP to OSIP 11-84 in FY02.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY 2	2003	FY:	2004	FY:	2005	FY:	2006	FY:	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		0.0		5.6		1.9																
PROCUREMENT																						
Installation Kits(ECP 904 1 &2)	9	9.1	7	8.9	37	38.7	14	20.6	36	32.1												
Installation Kits(ECP 904 3)							18		46	19.8												
Installation Kits N/R	*1 / **1	9.9		1.9	1	7.1		0.2		6.0												
Installation Equipment						0.4		0.3		1.6												
Installation Equipment N/R		0.1				0.1		*		0.1												
Engineering Change Orders																						
Data		3.5				1.4		*		0.1												
Training Equipment																						
Support Equipment																						
ILS		2.0		1.6		4.9		3.5		8.6												
Other Support																						
Interim Contractor Support																						
Installation Cost	*1/**1/2	0.0	***2	1.8	***4	2.9	7	6.4	37	35.2												
TOTAL PROCUREMENT		24.5		14.1		55.4		31.0		103.5												

- Totals may not add due to rounding
 - * ECP536 VALIVER KIT PROVIDED UNDER WARRANTY.
 ** ECP904NI VALIVER KIT. VALIVER KIT BEING PROVIDED BY NAVICP ON HAND ASSET.
- *** INSTALLATIONS SLIPPED ONE YEAR DUE TO FY01 FUNDING REDUCTIONS.
- 2. ECP part 3 is to required fix CAT & TRAP deficiences. It is not required for all aircraft.

Exhibit P-3a																						
MODELS OF SYSTEMS AFFECTED:		F/A-18 C	C/D					. M	ODIFICATI	ON TITLE		F/A-18 S	ERVICE	LIFE MA	NAGEME	NT PROG	RAM (SL	MP) (OS	SIP 11-99)	CBR+		
INSTALLATION INFORMATION:		CONTRA	ACTOR F	PROVIDI	IG 1 WAR	RANTY K	IT															
METHOD OF IMPLEMENTATION:		ONE KIT	INSTAL	LED BY	CONTRAC	TOR FO	R VAL/VE	R, OTH	ER INST	ALLS BY	DEPOT											
ADMINISTRATIVE LEADTIME:				3	Months	_			PRODUC	TION LEA	OTIME:				24	Months	_					
CONTRACT DATES:	FY 2002:		Jan-02		_	FY 2003:		Jan-03		_	FY 2004:		Jan-04		-	FY 2005:		Jan-05		_		
DELIVERY DATE:	FY 2002:		Jan-04			FY 2003:		Jan-05			FY 2004:		Jan-06			FY 2005:		Jan-07				
										(\$ in Millions	s)										
Cost:	Prior	Years		2002	FY 2		FY:			2005		2006		2007		2008		2009		mplete	TO	
57,0004 0 BV (0) L'II	Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY (8) kits IN WARRANTY (1) kit	2		2	1.8	4	2.9																
FY 2002 (7) kits	1						7	6.4											1			
FY 2002 (7) kits FY 2003 (37) kits				1			- /	6.4	37	35.2												
FY 2003 (37) kits FY 2004 (14) kits									31	33.2												
FY 2004 (14) kits	1			†	 	t -	1		†	t	1	l							1	1	1	
FY 2006 (37) kits						i e																
FY 2007 (29) kits																						
FY 2008 (22) kits																						
FY 2009 (20) kits																						
To Complete (144) kits																						
TOTAL	3	0.0	2	1.8	4	2.9	7	6.4	37	35.2												
Installation Schedule	FY 20	200		1	FY 2	2002			EV	2004			FY	2005			FY 2	000		7		
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In 3 0	1	0	1	1	1	1	1	1	2	2	2	8	9	10	10		<u> </u>		<u> </u>	1		
Out 2 0	0		0	1	0	1	1	1	1	1	1	1	2	2	2					1		
																				_		
FY 2					2008				2009			o										
1 2	3	4	1	2	3	4	1	2	3	4		plete		TAL								
lin I	1										3			55								
Out												39		55								

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	MULTIFUNTIONAL INFORMATION DISTRIBUTION SYSTEM (MIDS) (12-99)		
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D/E/F	TYPE MODIFICATION:	CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The system is Tactical Data Link Communications to provide a secure communications and navigation system. MIDS is a Pre-planned Product Improvement (P3I) to the Joint Tactical Information System (JTIDS) and will be installed in USN/USMC F/A-18 aircraft as the primary U.S. platform, since the aircraft can not accommodate the larger JTIDS Class 2 Terminals due to size and weight constraint. MIDS LVT is an International Cooperative Program (ICP) development with France, Germany, Italy, and Spain. A PMOU and Supplement 1 is in effect. The system will be interoperable with JTIDS Class 2 Terminals utilized by NATO allies as well as the other Services. ORD # 337-06-93

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

A MIDS installation kit Critical Design Review (CDR) was held at Boeing in September 1996. MIDS Terminal initial Engineering and Manufacturing Development (E&MD) delivery for F/A-18 occurred in February 1998. Installation into the first three (3) EMD aircraft began in March 1998 and ended in September 1998. In May 1999 Boeing was awarded the ECP contracts required to provision the F/A-18 for the MIDS LVT. These provisions included Avionics Upgrade hardware which is required by other F/A-18 programs and can be installed independently of MIDS LVT. Development delays have caused a program restructure, necessitating the use of FY99 funds to procure MIDS Terminals in FY00.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY:	2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Lot XII through XXI Kit	124	20.5	12	1.9	48	7.8	48	7.7	48	7.7												
Lot X through XI Kit																						
Installation Kits N/R																						
Installation Equipment																						
Avionics Upgrade	124	21.8	12	2.2	48	8.5	48	8.4	48	8.4												
MIDS LVT	76	28.7	71	21.7	25	7.1	65	18.8	72	21.2												
Installation Equipment N/R		37.2																				
Engineering Change Orders										0.5												
Data		0.5		0.3		0.6																
Training Equipment																						
Support Equipment		0.9		1.1		0.9		0.7		0.9												
ILS		2.3		0.9		1.7		1.2		1.3												
Other Support		3.2		4.7		6.1		5.7		4.4												
Interim Contractor Support																						
Installation Cost	4	0.5	34	4.4	56	5.6	42	4.2	48	4.8						·						
TOTAL PROCUREMENT		115.6		37.1		38.3		46.8		49.1						·						

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. The funding for the Avionics Upgrade includes the following equipment; an Interference Blanking Unit (IBU), an Amplifier Control Intercommunication Unit (ACI), a MIDS Compatible CIT upgrade, and a MIDS Compatible Transponder upgrade.
- 4. 12 Installations kits and Avionics Upgrades, plus 23 MIDs LVT procured through DERF(\$11.5M), in FYO2. Installation will be accomplished through budgeted FY04 installation cost.

	F/A-18 (C/D/E/F					М	ODIFICAT	ON TITLE:		MULTIF	UNTIONA	L INFOR	MATION [DISTRIBUT	ION SYS	TEM (MIC	OS) (12-99)		
	DEPOT	LEVEL																			
			6	Months	_			PRODUC	TION LEAD	TIME:				18	Months	_					
FY 2002:		М	ar-02	_	FY 2003	:	Mar	-03	=	FY 2004:		Ма	ır-04	=	FY 2005:		Ma	ar-05	_		
FY 2002:		Se	ер-03	_	FY 2003	: <u></u>	Sep	-04	=	FY 2004:		Se	p-05	=	FY 2005:		Se	ep-06	_		
									10	ia Millia											
Prior	Years	FY	2002	FY 2003		F)	2004	FY				FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
4	0.5	34	4.4	56	5.6	30	3.0														
					<u> </u>	12	1.2														<u> </u>
								48	4.8												
-					 	1													 		
_																					
																			1		
-		1		+															1		
-		1		+															1		
-		 		+								-								 	
4	0.5	34	4.4	56	5.6	42	4.2	48	4.8												
	02			FY 2	2003			FY 2	004			FY	2005			FY 2	006		1		
2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
0	0	34	13	13	15	15	15	15	6	6	12	12	12	12					1		
0	0	34	13	13	15	15	15	15	6	6	12	12	12	12					1		
														-					-		
007			FY				FY 2	009													
3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
										2	10	4	24								
											40		24	J							
	FY 2002: FY 2002: Prior Qty 4 4 4 ment. FY 20 2 0 0 0	Prior Years Qty \$ 4 0.5 Ment. FY 2002 Prior Years Qty \$ 4 0.5 A 0.5 Prior Years Qty \$ 4 0.5 Prior Years Qty \$ 4 0.5 Prior Years Qty \$ 4 0.5	FY 2002: Se Prior Years FY Qty \$ Qty 4 0.5 34 4 0.5 34 The second of the second of	DEPOT LEVEL 6 FY 2002: Mar-02 FY 2002: Sep-03 Prior Years	DEPOT LEVEL 6 Months	DEPOT LEVEL 6 Months FY 2002: FY 2003 FY 2002: FY 2002 FY 2003 Qty \$ Qty \$ Qty \$ 4 0.5 34 4.4 56 5.6 4 0.5 34 4.4 56 5.6 ment.	Prior Years	DEPOT LEVEL 6 Months FY 2002: Mar-02 FY 2003: Mar FY 2002: Sep-03 FY 2003: Sep Prior Years FY 2002 FY 2003 FY 2004 Qty \$ Qty \$ Qty \$ 4 0.5 34 4.4 56 5.6 30 3.0 1 1 1 1 1 1 1 1 1 4 0.5 34 4.4 56 5.6 42 4.2 1 4 0.5 34 4.4 56 5.6 42 4.2 1 4 0.5 34 4.1 2 3 4 1 2 3 4 1 2 3 4 1 0 0 34 13 13 15 15 15 1 0 0 34 13	PRODUCE	PRODUCTION LEAD FY 2002: Mar-02	PRODUCTION LEADTIME: FY 2002:	PRODUCTION LEADTIME: FY 2002: Mar-02	PRODUCTION LEADTIME: FY 2002: Mar-02	PRODUCTION LEADTIME: FY 2002: Mar-02 FY 2003: Mar-03 FY 2004: Mar-04	Proportion Pro	DEPOT LEVEL	PRODUCTION LEADTIME: 18 Months FY 2002: Mar-02 FY 2003: Mar-03 FY 2004: Mar-04 FY 2005: FY 2005: FY 2002: Sep-03 FY 2003: Sep-04 FY 2004: Sep-05 FY 2005: FY 2005: PY 2007: FY 2008: PY 2008:	DEPOT LEVEL	Properties	Property Property	Production Pro

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	F/A-18 C/D/E/F NACES P3I (Navy Aircrew Common Ejection Seat Pre-Planned Product Improv	ement) (OSIP 20-99)	
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D/E/F NACES EJECTION SEATS	TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION:

An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting aircrew into the ground or water at low altitude and adverse attitude. Congressional direction to increase U.S. Navy aircrew anthropometric range to more closely match the general aircrew population. This change will increase anthropometric range from the current 135lbs through 213lbs to 100lbs through 245lbs. The NACES P3I program is divided into three phases of development and upon completion of each phase, existing aircraft seats will be modified with retrofit kits to provide the increased capability to the NACES seat: Phase I - Current technology improvements to increase cockpit accommodation and reduce injury risk for all aircrew. Phase II - Propulsion stability control to reduce the risk of major injury to less than 5% up to 600 knots. Phase III - Stability control and surface avoidance capability for low altitudes, adverse altitudes, and out-of-control ejections.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ECP MB6004 was approved 19 May 1999.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY 2	003	FY 2004	FY	2005	FY 2006	FY 200	07	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty \$	Qty	\$	Qty \$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits	369	9.6	7	0.3																
Installation Kits N/R		1.5																		
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.2																		
Training Equipment	12	0.3																		
Support Equipment		0.2																		
ILS		1.4																		
Other Support																				
Interim Contractor Support																				
Installation Cost	224	0.2	152	0.2																
TOTAL PROCUREMENT		13.4		0.4																1

- Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

MODIFICATION TITLE: FIA-18 CIDIEF NACES P31 (OSIP 20-99) MODIFICATION TITLE: FIA-18 CIDIEF NACES P31 (OSIP 20-99) MODIFICATION TITLE: FIA-18 CIDIEF NACES P31 (OSIP 20-99) MODIFICATION TITLE: FIA-18 CIDIEF NACES P31 (OSIP 20-99) METHOD OF IMPLEMENTATION: CONTRACT DATE: FY 2002: FY 2003: FY 2004: FY 2005: FY 2005: FY 2006:	xhibit P-3a																					
Contractor Modification Team FY 2002	MODELS OF SYSTEMS AFFECTED:		F/A-18 C	/D/E/F N	ACES EJ	ECTION S	EATS			MODIFICA	TION TITL	E:	F/A-18 (/D/E/F NA	CES P3	(OSIP 2	20-99)					
ADMINISTRATIVE LEADTIME: FY 2002	NSTALLATION INFORMATION:																					
FY 2002	METHOD OF IMPLEMENTATION:		Contract	or Modif	ication 1	eam																
FY 2003	ADMINISTRATIVE LEADTIME:				6	Months				PRODUCT	ION LEAD	TIME:				2	Months					
FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL	CONTRACT DATES:	FY 2002:					FY 2003:					FY 2004:					FY 2005	- :				
Cost	AELINEDY DATE:																					
Cost	DELIVERY DATE:	FY 2002:				-	FY 2003:				-	FY 2004:				-	FY 2005			_		
Cost											(\$ i	n Millions)										
FY 2002 () kits	Cost:										2005	FÝ 2										
FY 2003 () kits	EV 0000 0 D : (070) I :					Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$
FY 2004 () kits		224	0.2	152	0.2																	
FY 2005 () kits																						
FY 2007 () kits	FY 2004 () kits																					
FY 2007 () kits																						
FY 2009 () kits																						
FY 2009 () kits																						
To Complete (168) kits TOTAL 224																						
Installation Schedule FY 2001																						
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 1 3 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	TOTAL	224	0.2	152	0.2																	
& Prior 1 2 3 4 1 2 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>,</th> <th></th> <th></th>																				,		
1				4	1			4	1			1	1			4	1		4	1		
Out 224 38 40 38 36 0																	0			1		
1 2 3 4 1 2 3 4 1 2 Complete TOTAL																				1		
1 2 3 4 1 2 3 4 1 2 Complete TOTAL																				-		
1 2 3 4 1 2 3 4 1 2 Complete TOTAL	FY 2	007			ΕY	′ 2008			FY 2	2009		Т	0			l						
In 0 0 0 0 0 0 0 0 0 0 0 0 168 544			4	1			4	1			4			TOT	AL							
Out 0 0 0 0 0 0 0 0 0 0 0 0 0 168 544	In 0 0	0	0	0	0	0	0	0	0	0	0	10	68	54	4							

Exhibit P-3a	IND	DIVIDUAL MODIFICATION		
MODIFICATION TITLE:	USMC F/A-18A UPGRADE ECP-583 (OSIP 21-00)			
MODELS OF SYSTEM AFFECTED:	F/A-18A	<u> </u>	TYPE MODIFICATION:	AVIONICS UPGRADE

DESCRIPTION/JUSTIFICATION

This ECP is being executed using FY98 (\$15.8M), FY99 (\$18M), and FY00 (\$17.9M) USMC funding to procure the "A" kits and some of the required Government Furnished Equipment (GFE) and APN-5 funding as shown on this exhibit.

Upgrade Avionics for F/A-18A Hornets (Lots 7, 8 and 9) for the U.S. Marine Corp. The Avionics Upgrade includes new avionic subsystems already incorporated or in process of being incorporated into USMC and/or FMS F/A-18 aircraft. This ECP incorporates the following subsystems: AN/ARC-210(V) with HAVEQUICK II and SINCGARS; Digital Communication Systems (DCS) Receiver/Transmitter (RT-1824(C)); Combined Interrogator/Transponder AN/APX-111 (V); Night Vision Display System (NVDS); Mission Computer CP-2360 (XN-8); Radar (AN/APG-73); Stores Management Set (SMS) (AN/AYQ-9); AMRAAM Capability (radar mod, launchers,weaponder and control stick); Digital Display Indicator (DDI) Upgrade; Mission Data Loader (AN/ASQ-215); Targeting FLIR provisions (AAS-38B). Starting in FV07, ECP583R2 will add the following capabilities MIDS(LVT), Color Displays JHMCS, ALE-47, TAMMAC, and AMU.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ECP 583 was approved 25 MAR 99. All the equipment being incorporated in this ECP has completed development.

ECP 583R1 was approved August 01.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior '	Years	FY 2	002	FY 2	003	FY 2	004	FY:	2005	FY	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	TO	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	12	3.9	6	2.2	4	1.5	6	2.4	4	1.6												
Installation Kits R-2																						
Installation Kits N/R		0.5		0.3		0.6		1.4		1.3												
Installation Equipment		106.2		22.3		16.3		21.3		14.5												
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.3								0.2												
Training		0.5		*		0.4																
Other Support (Testing)		1.7		0.2																		
Support Equipment		1.1		0.3																		
ILS		2.8		2.4		2.7		1.9		2.4												
Interim Contractor Support																						
Installation Cost	19	6.0	11	6.7	16	6.9	6	*	4	*												
TOTAL PROCUREMENT		122.9		34.4		28.4		27.0		20.0												

- Totals may not add due to rounding
- Asterisk indicates amount less than \$50K
- $3. \ \ \textbf{34} \ "A" \ \ \text{Kits were purchased with NGRE Funds 4 Val/Vers FY98}; \ \ 20 \ "A" \ \ \text{Kits FY99}; \ \ \text{and} \ \ 10 \ "A" \ \ \text{Kits FY00}$
- 4. The \$ increase of 6 installation in FY02, will be installed in FY05 using Congressional plus-up. The \$ increase of 4 installation in FY03, will be installed in FY05 using Congressional plus-up.

xhibit P-3a																						
MODELS OF SYSTEMS AFFECTED:		F/A-18A						_	M	ODIFICAT	ION TITLE	USMC	7/A-18A U	PGRADE	ECP-58	3 (OSIP	21-00)					
NSTALLATION INFORMATION:		APPROX	X 3 KITS IN	NSTALLE	ED EVERY	6 WEEK	3	_														
METHOD OF IMPLEMENTATION:		ONE KIT	T INSTALL	ED BY C	CONTRAC	OR FOR	VAL/VER	OTHER	INSTALL	S FIELD	TEAMS											
DMINISTRATIVE LEAD-TIME:				0.0) Months	_			PRODUC	TION LEAD	D-TIME:				24	Months	_					
ONTRACT DATES:	FY 2002:		Jul-02		_	FY 2003:		Mar-03		_	FY 2004		38.0		_	FY 2005		Mar-05		_		
ELIVERY DATE:	FY 2002:		Jul-04		_	FY 2003:		Mar-05			FY 2004	:	38.8			FY 2005		Mar-07				
										- (5	in Millions	:)										
Cost:	Prior	Years	FY 2	2002	FY:	2003	FY 2	2004	FY	2005		2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY (46) kits *	19	6.0	11	6.7	16	6.9																
FY 2002 (6) kits							6	•	'													
FY 2003 (4) kits									4													
FY 2004 (4) kits																						
FY 2005 (4) kits												<u> </u>										
FY 2006 (10) kits FY 2007 (24) kits											-		-		-				-			
FY 2007 (24) kits													1						1			
FY 2009 () kits																						
To Complete (45) kits																						1
TOTAL	19	6.0	11	6.7	16	6.9	6	0.0	4	0.0												
* USMC Reserve funded Installation Schedule FY 2001	FY 2			1	FY	2003		1	FY	2004		1	FY	2005		ı	FY	2006		1		
& Prior 1	2	3	4	1	2	3	2	1	2	3	4	1	2	3	4	1	2	3	4]		
In 19 2	3	3	3	4	4	4	4	0	0	3	3	1	1	1	1							
Out 19 2	3	3	3	4	4	4	4	0	0	3	3	1	1	1	1					J		
FY 20	007		1	EV	2008		1	FY 2	2000			То	1		1							
1 2	3	4	1	1 2	3	4	1	1 2	3	4		nplete	TO	TAL								
											95			51	1							
In							—	1	1	+	95			51	1							

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	F/A-18 JOINT HELMET-MOUNTED CUEING SYSTEM (JHMCS) (OSIP 24-00)		
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D/E/F	TYPE MODIFICATION:	CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The Joint Helmet-Mounted Cueing System (JHMCS) is a multi-service system that provides United States Air Force (USAF), United States Navy (USN), and United States Marine Corp (USMC) aircraft the capability to cue and verify on-board weapons and weapons sensors to a specific azimuth/elevation determined by the pilot's head position and to confirm sensor line-of-sight. The intent is to reduce tasks required of aircrews, verify seeker/sensor position, and enhance weapons employment opportunities. In the air-to-air role, aircrew will be able to cue and verify cueing of off-boresight weapons sensors and weapons (current and future short-range air-to-air role, aircrew will be able to cue and verify cueing of off-boresight weapons sensors and the air-to-ground role, this system will enhance lethality and survivability by reducing cockpit "heads down" and target acquisition time. For the strike, strike escort, and force application missions, the JHMCS possesses potential to enhance the flexibility of cueing weapons and sensors in the stressful air-to-ground tactical environment. The JHMCS incorporates an ejection-compatible helmet-mounted display system, with capability to cue and verify cueing of high off-axis sensors and weapons, on USAF and USN single seat and two seat fighter aircraft. The JHMCS includes a flight helmet with display optics, image source, display processor/video hardware and software to drive the display, uplook reticle, magnetic helmet tracker hardware and software, interfaces to the aircraft computers, weapons and sensor hardware, with software to integrate the JHMCS functions with other onboard systems. The JHMCS communicates with airborne sensors (FLIR, RADAR) through the aircraft avionics MUX Bus. It communicates with weapons through the armament MUX Bus via the Stores Management System.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

F/A-18 E/F JHMCS completed Developmental Testing in August 01 and began Operational Test (OPEVAL) in September 01 and was completed in April 02. F/A-18 E/F FRP1 (Lot 24 - FY00 Buy) are being delivered with JHMCS installed. The FY00 APN-5 Funding was used for production NRE and tooling expenses. The first F/A-18C/D JHMCS retrofit kits will be procured in FY03. F/A-18 E/F retrofit kits will be procured in FY03 to be installed in FY04 starting with LOT 23 aircraft.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years	FY 2002	FY 2003	FY	2004	FY	2005	FY 200	06	FY2	2007	FY2	2008	FY2	2009	To Co	mplete	TO	ΓAL
	Qty \$	Qty \$	Qty \$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E	30.5	0.0	23.6		24.6		12.7												
PROCUREMENT																			
Installation Kits																			
C/D				62	3.8	61	4.5												
E/F			21 1.3	9	0.6	0	*												
Installation Kits N/R	1.8																		
Installation Equipment																			ı
C/D				62	13.3	61	15.4												ı
E/F			21 4.4	9	1.9	0	*												
Installation Equipment N/R																			
Engineering Change Orders																			
Data																			
Training																			ı
Support Equipment			4 0.6	12	1.7	10	1.3												ı
ILS			0.3		0.9		1.1												
Spares																			
Other Support - Testing																			ı
Installation Cost				* 21	1.4	71	4.9												ı
TOTAL PROCUREMENT	1.8		6.5		23.6		27.2												

- 1. Totals may not add due to rounding
- Asterisk indicates amount less than \$50K
- 3. Unit Cost Increase in FY05 is due to increased costs for procurement of Aft Seat JMCS

xhibit P-3a																								
MODELS OF	SYSTEMS A	FFECTED:		F/A-18 C	C/D/E/F						N	MODIFICAT	ION TITLE:	F/A-18	JOINT HE	LMET-MO	OUNTED	CUEING	SYSTEM	(JHMCS) (OSIP 2	24-00)		
NSTALLATIO	N INFORMA	TION:		APPROX	X 5 KITS	INSTALL	ED EVER	Y 4 WEE	KS		_													
METHOD OF	IMPLEMENT	ATION:		FIELD M	OD TEA	MS																		
DMINISTRAT	TIVE LEAD-1	IME:				6	Months	=				PRODUC	TION LEAD	-TIME:			12	Months	<u>.</u>					
ONTRACT D	ATES:		FY 2002:				_	FY 2003:		Nov-03		_	FY 2004:		Nov-04			FY 2005:		Nov-05		_		
ELIVERY DA	TE:		FY 2002:				_	FY 2003:		Nov-04		_	FY 2004:		Nov-05			FY 2005:		Nov-06		_		
												,	\$ in Millions	s)										
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY2	2007	FY2	2008	FY	2009	To Co	omplete	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 8	k PY () kits																							
FY 2002 () kits																							
FY 2003 (21	1.4														
FY 2004 (71	4.9												
FY 2005 (
FY 2006 (
FY 2007 (
FY 2008 (
FY 2009 (1	
TO Comple TOTAL	ete (169) ki	ts							0.4		74	4.0											<u> </u>	
TOTAL			l						21	1.4	71	4.9							l .					
	Installation S	chedule																						
Ī	FY 2001		FY 2	2002			FY	2003			FY	2004			FY	2005			FY:	2006		7		
	& Prior	1	2	3	4	1_	2	3	2	1	2	3	4	1	2	3	4	1	2	3	4			
In	0	0	0	0	0	0	0	0	0	5	5	5	6	18	18	18	17							
Out	0	0	0	0	0	0	0	0	0	5	5	5	6	18	18	18	17							
-																	_							
l.		FY20		1			2008	1			2009			Го										
	1	2	3	4	1	2	3	4	1	2	3	4		nplete		TAL	1							
In				ļ			1	ļ				1		12		04	4							
Out					<u> </u>		<u> </u>					1	5	12	6	04	J							

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	ADVANCED TARGETING FORWARD LOOKING INFRARED (ATFLIR) (OSIP 12-01)		
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D/E/F	TYPE MODIFICATION:	CAPABILITY IMPROVEMENTS

DESCRIPTION/JUSTIFICATION:

The Advanced Targeting FLIR (ORD# 437-88-96) will provide the F/A-18C/D with a significantly enhanced capability to detect, track, and attack air and ground targets. New laser guided and GPS standoff weapon systems, and higher altitude attack profiles, require improved performance over the current AAS-38/46 Targeting FLIR. The ATFLIR is designed to provide a quantum leap in operational effectiveness to fully support the standoff precision strike mission. Improved reliability and maintainability technology will increase operational availability while reducing life cycle costs. ATFLIR moved from OSIP 19-94 as of FY01.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ATFLIR development began in FY1997. The E&MD contract was awarded in March, 1998. Preliminary Design Review and Critical Design Review has been completed. TECHEVAL is scheduled to begin in 3rd quarter of FY2002 with OPEVAL and FOT&E following in FY2003. Functionality on the F/A-18C/D will be with OFP 17C.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY:	2003	FY:	2004	FY:	2005	FY:	2006	FY2	2007	FY2	2008	FY2	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		177.7		42.5		13.3																
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment(C/D)	2	8.4	8	30.3	16	43.2	31	78.3	37	84.0												
Installation Equipment(E/F)																						
Installation Equipment N/R						30.0																
Engineering Change Orders				1.4		2.5		4.3		2.3												
Data		0.3		1.3		0.7		2.3		0.6												
Training		0.5		*		1.3		1.4		1.1												
Support Equipment		0.8		2.7		3.6		10.0		9.8												
ILS		1.1		5.7		5.6		7.5		5.7												
Spares																						
Other Support - Testing				0.2																		
Installation Cost																						
TOTAL PROCUREMENT		11.0		41.6		86.8		103.9		103.5												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. No cost installation at the Organizational level.
- 4. In FY2008 55 PODs will be for E/F and FY2009 all PODs will be for E/F.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: E/F 2000 HR CORRECTION OF DISCREPANCIES (OSIP 19-01)

TYPE MODIFICATION: SAFETY /RELIABILITY/IMPROVEMENT MODELS OF SYSTEM AFFECTED:

DESCRIPTION/JUSTIFICATION:

Corrections to discrepancies up to 2000 FHs identified during testing and development can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into already delivered aircraft requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofitting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required to meet transition plan and achieve planned life limits of LRIP I / II / III and FRP I / II aircraft:

Trailing Edge Outboard Hinge, Pt 1 (ECP 6035) Drag Angle (ECP 6136)

Nose Landing Gear Door Hinges (ECP 6032) MLG Strut Door to Fus Interface (ECP 6057)

NLG Fwd Door Aft Hinge (ECP 6137) Y541 Fitting Repair Crack (ECP 6111) ECS Primary Heat Exchanger (ECP 6078)

MLG Sidebrace Pin (ECP 6099) Door 55 Fastener Hole Wear (ECP 6086) Wing Torque Box Buffet, Pt 2 (ECP 6035) Ecology Tank Flange Changes (ECP 6100)

APEX Fitting Cracking (ECP 6041)

Intercostal at Engine Mounting (ECP 6092) Fuel FLR Angle (ECP 6128)

Inlet Duct Stiffener (ECP 6094) Triangular Keel Web Y604 (ECP 6118) Keel Web @ Y659 (ECP 6067) Keel Web @ Y472 (ECP 6127)

Visual Identification System (ECP 6052) AOA Probe Circuitry (ECP XXX2) Boarding Ladder Switch (ECP XXX3)

Keel Web (ECP-XXX7)

Replace hinges on trailing edge flap, aileron and aileron shroud with redesigned hinges to prevent potential departure of flight control surfaces in flight

Install redesigned wing drag angle to correct acoustic vibration related fatigue failures.

Retrofit redesigned hinge to restore component to its original specification.

Replace with redesigned hinge and clevis, and install bushing into Y520 former to restore component to its original specification.

Incorparate redesigned drive hinge to prevent potential departure of component in flight.

Splice redesigned lower appendage area into Y541 former to restore component to original specification.

Replace noncompliant heat exchanger with redesigned full life component and new ECS duct. Retrofit with redesigned apex fitting to restore component to its original specification.

Fit MLG with redesigned pin to prevent possible collapse of MLG during arrestments. Retrofit fasteners with steel bushings to prevent distribution of stress into fuselage components. Remove noncomplinent TEF and aileron hinges on wing torque box and replace with full life hinges. Incorporate redesigned ecology tank and modify mount on the door to prevent tank separation.

Replace component to restore aircraft to original structural integrity.

Add titanium bathtub fittings and replace fuel floor to increase fuel floor land area. Remove & replace with new design Inlet Duct Stiffener to correct design deficiency.

Replace Keel Web with redesigned component to conform to original aircraft specification.

Install doublers to restore component to its original service life. Install doublers to restore component to its original service life.

Provide Pattern Strobe Light System and Circuit Logic Change cues to distinguish E/F from C/D at night.

Retrofit redesigned AOA Probe Ciruitry to prevent potential safety hazard.

Relocation of boarding ladder switch to preclude inadvertent actuation of the canopy switch, resulting in the possible closing of aircraft canopy on personnel.

Replace Keel Web with redesigned component to conform to original aircraft specification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.

Some ECPs are "O" Level Installs

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: E/F 2000 HR CORRECTION OF DISCREPANCIES (OSIP 19-01)

MODELS OF SYSTEM AFFECTED: F/A-18 E/F TYPE MODIFICATION: SAFETY /RELIABILITY/IMPROVEMENT

FINANCIAL PLAN (TOA, \$ in Millions):

<u> </u>		Years	FY	2002	FY	2003		2004	FY:	2005	FY	2006	FY 2	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
DT&E																						
ROCUREMENT																						
Installation Kits																						
ECP 6035 / Trailing Edge Outboard Hinge, Pt 1	12	4.2																				
ECP 6136 / Drag Angle	12	0.0																				
ECP 6032 / Nose Landing Gear Door Hinges	12	0.0																				
ECP 6057 / MLG Strut Door to Fus Interface	12	0.3																				
ECP 6137 / NLG Fwd Door Aft Hinge	12	0.2																				
ECP 6111 / Y541 Fitting Repair Crack	12	0.6	24	1.1	24	1.1	20	0.1														
ECP 6078 / ECS Primary Heat Exchanger			62	2.5	25	1.8																
ECP 6041 / APEX Fitting Cracking	12	0.1																				
ECP 6099 / MLG Sidebrace Pin	12	0.1																				
ECP 6086 / Door 55 Fastener Hole Wear	12	0.1																				
ECP 6035 / Wing Torque Box Buffet, Pt 2	12	0.6			26	1.1	24	1.0	36	1.5												
ECP 6100 / Ecology Tank Flange Changes	12	0.3			20	0.5																
ECP 6092 / Intercostal at Engine Mounting	12	0.3																				
ECP 6128 / Fuel FLR Angle	12	0.5	24	1.1	30	1.4	32	1.5														
ECP 6094 / Inlet Duct Stiffener	12	0.4																				
ECP 6118 / Triangular Keel Web Y604	12	0.1	24	0.2	30	0.3	32	0.3	39	0.4												
ECP 6067 / Keel Web @ Y659	12	0.1	24	0.1	12	0.1																
ECP 6127 / Keel Web @ Y472	12	0.2	24	0.4	24	0.4	20	0.3														
ECP 6052 / Visual Identification System					32	1.5																
ECP XXX / AOA Probe Circuitry	12	0.1	24	0.3	30	,	30	0.3	39													
ECP XXX3 / Boarding Ladder Switch	12	0.1	24	0.3	30	,																
ECP XXX7 / Keel Web									12	0.1												
nstallation Kits N/R		2.0				0.5		0.2		0.1												
nstallation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment	_																					<u> </u>
Support Equipment ILS		0.2	1	1.1	l	0.5	l	0.2	l	0.7			ļ		ļ							├
ILS Other Support	-	0.2		1.1	1	0.5	-	0.2	-	0.7				-	-			 				₩
Interis Support		 	-	 	 	 	 		 				 		-			 				—
Installation Cost	<u> </u>	1	180	4.1	200	1.5	191	5.2	152	6.2								1				\vdash
TOTAL PROCUREMENT		10.6	.00	11.2	200	10.7	.31	9.2	.52	9.1		 	1		1		1	l				\vdash

Exhibit P-3a	INDIVIDUAL MODIFICATION			
MODIFICATION TITLE:	F/A-18 C/D DIGITAL WINGTIP MOD FOR AIM-9X COMPATIBILITY (OSIP 05-02)			
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D	TYPE MODIFICATION:	CAPABILITY UPGRADE	

DESCRIPTION/JUSTIFICATION:

The AIM-9X Joint Operation Document (JORD), ORD# USN-CAF (USAF 001-93)-IIA, requires a highly expanded off-boresight targeting capability that presently cannot be achieved with the current AIM-9M analog interface signal set. The JORD also requires the missile to communicate with the aircraft through a digital interface. The F/A-18 currently has a tailored MIL-STD-1760 interface on stations 2 through 8. Modifications to the outer wing panel and LAU-7 launcher can provide full digital capability to the wingtip and can support full AIM-9X capability. The current launcher support equipment (AWM-100) must also be modified to support/test this digital wingtip capability. AWM-100 are "O" level installations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AIM-9X missile is currently in the EMD phase. Operational testing, OT-IIA ended during the 1st quarter of FY2000 and OT-IIB began 2nd quarter of FY2002 and is scheduled to complete 2nd quarter of FY2003. The AIM-9X program Milestone III (FRP) is scheduled for 2nd quarter FY2003.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Prior Years		FY 2002		FY 2003		FY 2004		FY 2005		2006	FY2	2007	FY:	2008	FY2	2009	To Co	mplete	TOT	AL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
F/A-18 Digital Wingtip Kits			75	0.1	82	0.2	43	0.1	24	0.1												
Installation Kits N/R				0.3		*		*		*				*		*		*				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.4																		
Training						0.1		*		*		*		*		*		*				
Support Equipment				0.7		0.6		*		*		*		*		*		*				
ILS				*		*		*		*		*		*		*		*				
Spares																						
Other Support - Testing																						
Installation Cost			0	0.0	75	0.4	82	0.5	43	0.3												
TOTAL PROCUREMENT				1.6		1.5		0.6		0.3												

Notes:

1. Totals may not add due to rounding

Asterisk indicates amount less than \$50K

xhibit P-3a																								
ODELS OF SYS	STEMS AF	FECTED:		F/A-18 C	C/D					-	N	MODIFICAT	ON TITLE:	F/A-18 C	/D DIGIT	AL WING	TIP MOD	FOR AII	N-9X COI	MPATIBI	LITY (OS	IP 05-02)		
NSTALLATION II	NFORMAT	TION:									_													
IETHOD OF IMP	PLEMENT	ATION:		O-Level	Install fo	r AWM-1	00																	
.DMINISTRATIVI	E LEAD-T	IME:				3	Months	_				PRODUC	ION LEAD	TIME:			12	Months						
ONTRACT DAT	ES:		FY 2002:		De	c-01	_	FY 2003:		De	c-02	_	FY 2004:		Dec	c-03		FY 2005:		De	c-03	_		
ELIVERY DATE	i:		FY 2002:		De	c-02	=.	FY 2003:		De	c-03	=.	FY 2004:		Dec	c-04		FY 2005:		De	c-05	=		
												(\$ in Millions	;)										
	Cost:		Prior '	Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY2		FY2	2007	FY2	2008	FY2	2009	To Co	omplete	TO	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & P																								
FY 2002 (75					0	0.0	75	0.4																
FY 2003 (82									82	0.5														
FY 2004 (43											43	0.3												
FY 2005 (24 FY 2006 (32																								
FY 2006 (32																								
FY 2008 (72																								
FY 2009 (20																								
To Complete																								
TOTAL	(/				0	0.0	75	0.4	82	0.5	43	0.3												
	tallation S	chedule	FY 2			1		2003		ı	57	2004			FY 2			1	FY2			7		
	R Prior	1	2	3	4	-1	2	3	2	1	2	3	4	1	2	3	4	1	2	3	4	-		
In	0	0	0	0	0	18	19	19	19	20	21	21	20	10	11	11	11	 			1 4	1		
Out	0	0	0	0	0	18	19	19	19	20	21	21	20	10	11	11	11							
																						_		
		FY20	07				2008				2009			ō										
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO									
In													2			48								
Out					1	1	1	1	I	1	1	1	2	48	4									

Exhibit P-3a	IN	NDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	C/D TRAINING SYSTEM (OSIP 06-02)			
MODELS OF SYSTEM AFFECTED:	F/A-18 C/D		TYPE MODIFICATION:	TRAINERS UPGRADE

DESCRIPTION/JUSTIFICATION:

F/A-18C/D training funds will be used to meet current Fleet Readiness Squadron (FRS) requirements by purchasing new components and software to prevent obsolescence of the various trainers as F/A-18C/D aircraft are modified for capability enhancement and service life extension. Funding will also be used to update courseware and computer based training (CBT) as new capabilities are introduced to the fleet, and will enable the fleet to institute and aggressive post-FRS training environment to bring F/A-18C/D trainers into High Level Architecture (HLA) compliance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years				FY 2003		FY:	2004	FY 2	2005	FY	2006	FY2	2007	FY2	2008	FY2	2009	To Co	mplete	TO	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training				4.8		37.6				13.9												
Support Equipment																						
ILS																						
Spares																						L
Other Support - Testing																						Ĺ
Installation Cost																						
TOTAL PROCUREMENT				4.8		37.6				13.9												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

INDIVIDUAL MODIFICATION		
MIDITION CONTROL MODILION CONTROL	xhibit P-3a	INDIVIDUAL MODIFICATION

MODIFICATION TITLE: PHOTO RECONNAISSANCE INTELLIGENCE STRIKE MODULE (PRISM) (OSIP 15-02) TYPE MODIFICATION: CAPABILITY IMPROVEMENT

MODELS OF SYSTEM AFFECTED: F/A-18 C/DE/F

DESCRIPTION/JUSTIFICATION:

PRISM provides the aircrew the capability to link video imagery and targeting coordinates from aircraft to aircraft to aircraft to aircraft to aircraft to aircraft to aircraft to aircraft. This Congressionally added funding would be used to fully qualify the PRISM capability on the F/A-18, and to provide this critical warfighting capability to the Fleet as F-14s are being retired from carriers. The Fleet completed a successful demonstration of the PRISM capability on the F/A-18C aircraft last year, and thus, this effort is considered low risk.

Tactical imagery continues to be critical to ongoing conflicts. PRISM provides the capability to transmit this imagery from aircraft, or to a ground receiving station. This allows quick and easy dissemination of imagery to aircraft or ground stations after it is collected. This also provides the fleet the capability to target mobile targets. Without PRISM on F/A-18 aircraft, the Battle Group Commander loses this critical capability beginning in FY03 as F-14s leave the Fleet. As such, his ability to transmit and disseminate imagery, and to target mobile targets will be severely diminished. Installs are at the "O" Level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Deliver Preproduction Units(3) Sep 30 2002 Complete Carrier Qual Testing Dec 30 2002

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior Years				FY 2003		FY 2004		FY:	2005	FY 2	2006	FY 2	2007	FY:	2008	FY:	2009	To Co	mplete	TO	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (0204136N/E2065)																						
PROCUREMENT																						
Installation Kits			3	2.1																		
Installation Kits N/R																						
Installation Equipment																						
Installation Kits N/R																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support				0.4																		
Interim Contractor Support																						
Installation Cost																						
TOTAL PROCUREMENT				2.5																		<i>-</i>

- Totals may not add due to rounding
- Asterisk indicates amount less than \$50K

hibit P-3a	INDIVIDUAL MODIFICATION

E/F 4000 HR CORRECTION OF DISCREPANCIES (OSIP 12-03) MODIFICATION TITLE:

MODELS OF SYSTEM AFFECTED: TYPE MODIFICATION: SAFETY /RELIABILITY/IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

Corrections to discrepancies up to 4000 FHs identified during testing and development can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into already delivered aircraft requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofitting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required to meet transition plan and achieve planned life limits of LRIP II / III and FRP I / II aircraft:

LEX Skin Stfner Clip Crack @ Y453 (ECP 6139) LEX Redesign (ECP 6126)

Boot Strap Cracks (ECP 6029) Dorsal Cover #40 Hole Elongation (ECP 6085) Door 317 Hole Elongation (ECP 6120)

Y510 Side Long Web (ECP 6129) Inbd Former @ Y618 (ECP 6135) LEX Door Test Failure (ECP 6009) Lower Outboard Longeron @ Y555 (ECP 6141)

Y568 Shroud Cllip (ECP 6143) Y472.5 Blkd Fatigue Crks MLG Trunion (ECP 6157) Missile Launcher Shelf LAU-116 (ECP 6142)

Missile Beam Stiffener (ECP6138)

Remove and Replace w/redesigned Clip to prevent improper distribution of stress into adjacent fuselage components. Replace 50% of intermediate Spar; add bathtub fittings 4 locations; replace rib to restore aircraft to design life

Replace bootstrap and Y645 Outboard Former with redesigned components to meet specification life

Incorporate redesigned door to prevent potential departure of component in flight Incorporate redesigned door to prevent potential departure of component in flight

Remove and replace Longeron Web with thicker web to restore component to its original specification.

Replace stringer, upper / lower keel webs and stiffener to restore aircraft to original structural integrity Install door with thicker lands and thicker hat stiffeners end to correct acoustic vibration related fatigue

Cold work nutplate holes and add clip to correct design deficiency

Installation of a structural clip to the shroud in order to prevent buckling Blend bulkhead to prevent distribution of stress into components. Install doublers to restore component to its original, service life

Brings sturcture back to original specification by adding a doubler to the structure

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.

Some ECPs are "O" Level Installs

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	E/F 4000 HR CORRECTION OF DISCREPANCIES (OSIP 12-03)		
MODELS OF SYSTEM AFFECTED:	F/A-18 E/F	TYPE MODIFICATION:	SAFETY /RELIABILITY/IMPROVEMENT
FINANCIAL PLAN (TOA, \$ in Millions):			

		Years	FY	2002		2003	FY 2	004	FY:	2005	FY	2006	FY 2007		2008	FY:	2009		mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty \$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																					
PROCUREMENT																					
Installation Kits																					
ECP 6139 / LEX Skin Stfner Clip Crack @ Y453					24	0.1	24	0.1	45	0.2											
ECP 6126 / LEX Redesign					36	0.4	36	0.4	26	0.3											
ECP 6029 / Boot Strap Cracks					24	4.2	32	5.7	6	1.1											
ECP 6085 / Dorsal Cover #40 Hole Elongation					36	0.6	17	0.3													
ECP 6120 / Door 317 Hole Elongation					36	0.9	36	0.9	8	0.2											
ECP 6129 / Y510 Side Long Web					36	0.1	36	0.1	17	0.1											
ECP 6135 / Inbd Former @ Y618					36	0.3	36	0.3	36	0.3											
ECP 6009 / LEX Door Test Failure					32	0.5															
ECP 6141 / Lower Outboard Longeron @ Y555					36	0.2	36	0.2	36	0.2											
ECP 6143 / Y568 Shroud Cllip					36	0.1	36	0.1	36	0.1											
ECP 6157 / Y472.5 Blkd Fatigue Crks MLG Trunion					36	0.1	36	*	36	0.1											
ECP 6142 / Missile Launcher Shelf LAU-116					26	0.1	32	0.2	10	0.1											
ECP 6138 / Missile Beam Stiffener					24	0.7	36	1.1	36	1.1											
Installation Kits N/R						3.6		1.4													
Installation Equipment																					
Installation Equipment N/R																					
Engineering Change Orders																					
Data						0.1															
Training Equipment																					<u> </u>
Support Equipment ILS			1													1					├
Other Support	!					2.4	l	3.0		2.0		1				1					
Interim Contractor Support	!		1									1		1		1					
Installation Cost	1		<u> </u>				418	5.1	393	6.3		1									
TOTAL PROCUREMENT	1					14.4	710	19.0	583	12.0						1					\vdash

xhibit P-3a	INDIVIDUAL MODIFICATION

MODIFICATION TITLE: E/F 6000 HR CORRECTION OF DISCREPANCIES (OSIP 13-03)

MODELS OF SYSTEM AFFECTED: F/A-18 E/F TYPE MODIFICATION: SAFETY /RELIABILITY/IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

Corrections to discrepancies up to 6000 FHs identified during testing and development can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into aircadt requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofitting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required to meet transition plan and achieve planned life limits of LRIP II / III and FRP I / III aircraft.

LRHS Y577 Frame Flang Crack (ECP 6154)
12K SFH Y461 Cilp Crack (ECP 6144)
Bay 5 Avionics Door Hinge Crack (ECP 6155)
Y591 Bulkhead Stiffner Fillet Crack (ECP 6160)
Y555 Former (ECP 6117)
Y591 Long Splice Fit (ECP 6119)
Outboard Longeron G Y631 (ECP 6124)
Broken Fastener Nozzel Skin Y694 (ECP 6107)

Broken Fastener Nozzel Skin Y694 (ECP 610 Y679 Former Fasteners (ECP 6123) Y604 UOB Long (ECP 6134) Missile Beam Web, Aft of Y541 (ECP 6132) Add bathub fitting to restore aircraft to original structural integrity Replace fatigued clip with a redesigned clip to meet design life Replaces hinges with improved hinges to meet design life. Add nested fitting to restore aircraft to original structural integrity Add structural backup to former for meet specification life.

Remove and replace splice fitting and fasteners to restore aircraft to original structural integrity

Remove and replace hi-lok fastener to restore aircraft to original structural integrity Replace fastener with oversize fastener to correct design deficiency

Replace with new material fastener to restore aircraft to original structural integrity

Blend away material from downstanding leg to prevent distribution of stress

Add doubler to restore component to its original service life

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	E/F 6000 HR CORRECTION OF DISCREPANCIES (OSIP 13-03)		
MODELS OF SYSTEM AFFECTED:	F/A-18 E/F	TYPE MODIFICATION:	SAFETY /RELIABILITY/IMPROVEMENT

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years		2002		2003		2004		2005	FY 2006		2007		2008		2009	To Complete	TOT	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty \$	Qty	\$	Qty	\$	Qty	\$	Qty \$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
ECP 6154 / L/RHS Y577 Frame Flang Crack					36	0.4	36	0.4	48	0.5										
ECP 6144) / 12K SFH Y461 Clip Crack					36	0.1	36	0.1	48	0.2										
ECP 6155 / Bay 5 Avionics Door Hinge Crack					36	0.2														
ECP 6160 / Y591 Bulkhead Stiffner Fillet Crack					36	0.4	36	0.4	36	0.4										
ECP 6117 / Y555 Former					36	0.3	38	0.4												
ECP 6119 / Y591 Long Splice Fit					36	0.7	36	0.7	48	1.0										
ECP 6124 / Outboard Longeron @ Y631					30	0.2														
ECP 6107 / Broken Fastener Nozzel Skin Y694					30	0.1	17	0.1	15	0.1										
ECP 6123 / Y679 Former Fasteners					36	0.1	36	0.1	31	0.1										
ECP 6134 / Y604 UOB Long					36	0.3	36	0.3	48	0.4										
ECP 6132 / Missile Beam Web, Aft of Y541					36	0.2	36	0.3	26	0.2										
ECP 6166 / AMAD Bay Door 53							62	0.5	30	0.2										
Installation Kits N/R						2.4		0.4												
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data						0.0														
Training Equipment																				
Support Equipment	-					0.0						-								
ILS Other Support	_					0.3		1.0		0.6		+					-			
Interim Contractor Support	_		-		-		-					-		-						
Installation Cost	-						318	3.2	349	4.1		+				1	1			
TOTAL PROCUREMENT	+			-		5.8	310	8.0	349	7.9					-	1	-	 		

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: E/F CORRECTION OF OPERATIONAL DISCREPANCIES (OSIP 14-03)

MODELS OF SYSTEM AFFECTED: F/A-18 E/F TYPE MODIFICATION: SAFETY /RELIABILITY/IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

Corrections to operational discrepancies identified can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into aircady delivered aircraft requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofitting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required to meet transition plan and achieve planned life limits of LRIP II / III and FRP I / I aircraft:

ECS Exhaust Overtemp Final Fix (ECP 6106) Modifies current exhaust ducts in order to rteduce skin and structural temperatures caused by the ECS exhaust plume

Aft ECS Cooling Fan (ECP 6114)

Strengthens ECS cooling fan to prevent and contain fan failures

FCC Processor Upgrade (ECP 6002)

Replace existing FCC processor with upgraded higher order processors

Tank 4 Transfer Pump Wiring (ECP 6131)

Rerouting wiring to correct safety issue due to incorrect wire routing in the fuel tank

Tank 4 HYD Tube (ECP 6130)

Improved hydraulic tube clamping to prevent wear

Bushing Migration (ECP 6104)

Improved bushing retention for MLG Door hinge attach points

Y645 Former @ Upper OB Long (ECP 6088) Repair former by adding a doubler to bring it back to original specifiaction

MLG Control Valve addingof Emerg Port Restricter (ECP XXX1)

Adding restricter to eliminate hydraulic system spiking

Long Stick Position Tx (ECP XXX2)

Incorporation of improved retention mechanism in position sensor

Spoiler Shim Material Selection (ECP XXX3)

Replace current material with new material in order to reduce corrosion

Back-up Structure (ECP 6171)

Strengthen the Centeline Structure to meet 2000 catapult requirement

Anti-lop Duck UBABRO Clamp (ECP XXX5)

Addition of a rether to present inadvertent use of wrong clamp

Hydraulic PUMP Inlet Hose Change (ECP 6147)

Replacement of inlet hose for clearance

TEF Cocured Box Skin Buckling, Pt.1, (ECP 6035R1)

Preplacement of skins to reduce buckling

TEF, Cocured Box Ply Distortion/Rib Pullback, Pt. 2 (ECP6035R1) Replacement of upper skin to reduce seperation of skins

Radar Altimer Antenna Radome Delimination (ECP XXX8)

Drill hole in door to allow escape of moisture accumulation in order to prevent corrosion of the antenna Lex Cracks (ECP XXX9)

Modifies LEX structure to prevent cracks induced from aroedynamic loads

Modifies LEX structure to prevent cracks induced from aroedynamic loads Redsign clevis to eliminate cracking imparted during gear cycling

Introduces strengthened design to prevent cracking

Modifies Keel To Prevent Future Cracking

FT50 Teardown Bulkhead Cracking (ECP XX12)

Modifies bulkhead to prevent cracking discovered during FT50 testing
FT50 Teardown Stringer Failure (ECP XX13)

Redesigned stringer to address failures observed during fatigue testing

Door Fastener hole elongation(ECP XX14)
Door Fastener hole Deorfmation(ECP-XX15)

Introduces fasteners to relieve stress from hole elogation
Improved fasteners to prevent deofrmation introduced by flight loads

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

MLG Outboard Tire Door Clevis (ECP 6145)

FT50 teardown Keel Failure (ECP XX11)

FT50 Teardown Longeron Cracks (ECP XX10)

Each change has been or will be tested prior to installation in the F/A-18.

Some ECPs are "O" Level Installs

P-1 SHOPPING LIST ITEM NO. 29 PAGE NO. 38 OF 41

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: E/F CORRECTION OF OPERATIONAL DISCREPANCIES (OSIP 14-03)

MODELS OF SYSTEM AFFECTED: F/A-18 E/F TYPE MODIFICATION: SAFETY /RELIABILITY/IMPROVEMENT

FINANCIAL PLAN (TOA, \$ in Millions):

NCIAL PLAN (TOA, \$ in Millions):																					
		Years		2001		2002	FY:		FY:			2005		2006	FY 2		FY 2		FY 2009	To Complete	TOTAL
	Qty	\$	Qty	<u>\$</u>	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty \$	Qty \$	Qty \$
RDT&E																					
PROCUREMENT																					
Installation Kits																					
ECP 6106R1 / ECS Overtemp/Bard Stack							37	3.9	12	1.3	49	5.3									
ECP 6114 / Aft ECS Cooling Fan							36	0.4	26	0.3	26	0.3									
ECP 6002 / FCC Processor Upgrade							28	1.7													
ECP 6131 / Tank 4 Transfer Pump Wiring									32	0.1	12	*									
ECP 6130 / Tank 4 HYD Tube									20	*	30	*									
ECP 6104 / Bushing Migration							32	1.0													
ECP 6088 / Y645 Former @ Upper OB Long							36	0.6													
ECP XXX1 / MLG Ctrl Valve of Emerg Port Restr									137	0.1											
ECP XXX2 / Long Stick Position Tx							13	0.3													
ECP XXX3 / Spoiler Shim Material Selection							12	0.1													
ECP-XXX4 / SUU 78 Back-up Structure							36	3.6	36	0.1	36	0.1									
ECP-XXX5 / Anti-Ice Duct VBARD Clamp							32	0.2	32	0.2	85	0.5									
ECP 6147 / Hydraulic PUMP Inlet Hose Change											12	0.1									
ECP 6035R1 / TEF Cocured Box Skin Buckling, Pt.1											12	0.1									
ECP 6035R1 / TEF, Cocured Box Ply Distortion/Rib Pullt	nack Pt 2										12	0.2									
ECP XXX8 / Radar Altimer Antenna Radome Delimination											12	0.2									
ECP XXX9 / Lex Cracks									30	0.5	30	0.5									
ECP 6145 / MLG Outboard Tire Door Clevis							1		12	0.3	20	0.6									
ECP XX10 / FT50 Teardown Longeron Repair							1		12	0.5 *	36	0.0									
ECP XX11 / FT50 teardown Keel Repair					1		†		12	0.1	32	0.2									
ECP XX12 / FT50 Teardown Bulkhead Repair					1		†		36	0.4	36	0.4									
ECP XX12 / FT50 Teardown Stringer Repair					1		†		30	0.4	36	0.4									
ECP XX13 / F130 Teardown Stringer Repair					-		1				36	0.4					1				
ECP XX14 / Doors					-		1		12	0.1	36	0.4									
Installation Kits N/R								3.3	12	2.7	30	3.5									
Installation Equipment					1		†	3.3		2.1		3.3									
Installation Equipment N/R							1														
Engineering Change Orders																					
Data								0.0		0.2		0.2									
Training Equipment																					
Support Equipment																					
ILS								1.3		1.3		1.8									
Other Support																					
Interim Contractor Support																					
Installation Cost									141	3.4	240	4.0									
TOTAL PROCUREMENT			1	1	1	1	1	16.4		11.0	1	19.3		1		1		1			1

Exhibit P-3a	INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	MARK XIIA MODE 5 IFF (OSIP 15-03)		
MODELS OF SYSTEM AFFECTED:	VARIOUS (49 Separate T/M/S)	TYPE MODIFICATION:	CAPABILITY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

MK XII A Mode 5 provides improved secure cooperative combat identification through IFF. MODE 5 is a product improvement which is designed to be installed through engineering changes to digital MK XII interrogators and transponders including the APX-117, APX-118, UPX-37, APX-111, and RT-1832. MODE 5 is designed to be installed in all Navy T/M/S aircraft which are currently MODE 4 IFF capable (49 T/M/S aircraft). MODE 5 is developed in cooperation with NATO. MODE 5 was designated a "JROC special interest" program in March 2001 and is interoperable across all services. ORD # 577-06-01

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

MODE 5 completed a brassboard development in December 1997. Modeling and Simulation to demonstrate interoperability was completed in February of 1998 to support NATO STANAG development. Proof of concept flight testing completed in December 1999. A Preliminary Design Review (PDR) for the proposed ECP to incorporate MODE 5 in the APX-118 was completed in July 2001. Contracts to develop a prototype Cryptographic Module and ECP kit are presently being executed.

FINANCIAL PLAN (TOA, \$ in Millions):

NCIAL PLAN (TOA, \$ In Millions):	Prio	r Years	FY	2002	FY	2003	F۱	2004	FY :	2005	FY:	2006	FY:	2007	FY	2008	FY 2	009	To Co	mnlete	TO	TAI
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		4.3		6.1		11.0		10.9		5.9		14.9		13.9		13.9		13.9				
PROCUREMENT																						
Installation Kits																						
Platform Installation A-Kits																						
Installation Kits N/R						0.5		1.2		1.1												
Installation Equipment (Note 1)																						
MODE 5 IFF HARDWARE B-KIT																						
Installation Equipment N/R										0.4												
Engineering Change Orders										0.0												
Data						0.0		0.0		0.0												
Training Equipment						0.0		0.0		0.0												
Support Equipment						0.9		0.6		0.0												
ILS										0.0												
Other Support																						
Interim Contractor Support																						
Installation Cost																_						
TOTAL PROCUREMENT						1.4		1.9		1.6												

- Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

bit P-3a																								
DELS OF S	YSTEMS AFFE	CTED:		VARIOU	S (49 Ser	parate T/N	1/S)				MODIFICAT	ION TITLE:		MARK	XIIA MODE	5 IFF (O	SIP 15-03)							
ALLATION	INFORMATIO	N:																						
HOD OF I	MPLEMENTATI	ON:		FIELD IN	NSTALL P	(ITS and	VENDOR	DEPOT	ECP INS	TALLATIO	N													
IINISTRAT	VE LEADTIME					6	Months	=			PRODUCT	TION LEAD	TIME:				3	Months	=					
ITRACT DA	TES:	FY 2002	!				_	FY 2003	3		Nov-02		_		FY 2004:		Jan-04		_		FY 2005:		Nov-04	
IVERY DA	E:	FY 2002:					_	FY 2003	:		Jan-03		_		FY 2004:	:	Nov-03		_		FY 2005:		Jan-05	
	Cost:					2002		2003		2004	FY:	2005		2006		2007		2008		2009		mplete		TAL
EV 2001	9 DV () Vito	EMENTATION: FIELD INST LEADTIME: S: FY 2002 FY 2002: Cost: Prior Years		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2002																								
	(0) Kits																							
	(0) Kits																							
FY 2005																								
	(72) Kits																							
																	1							
	(72) Kits																							
	olete (280) Kit	S																						
TOTAL	, ,																							
	, ,																							
	FY 2001						FY 2	2003			FY 2	004				2005			FY 2]		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In Out																						1		
Out	0					ļ								ļ								l		
		EV 200	7			FY 2	2008			FY 2	2009		1 7	Го	1		1							
	1			4	1	2	3	4	1	2	3	4		nplete	то	TAL								
In	1		† -	<u> </u>		i -	<u> </u>		<u> </u>		† -	<u> </u>		96		96	1							
														96		196								

Exhibit P-40, BUDGET ITE	M JUSTIFICATION	N							DATE:			
										Februa	ary 2003	
APPROPRIATION/BUDGET ACT	TIVITY						P-1 ITEM NOMEN	NCLATURE				
Aircraft Procurement, Navy/	APN-5 Aircraft Mod	ifications								H-46 Serie	s Helicopter	
Program Element for Code B Iter	ns:						Other Related	Program Elem	ents			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	440.5	A	38.2	65.6	81.1	71.4	52.1	47.2	5.5		7.6	809.3

This line item funds modifications to the H-46 aircraft. The H-46 is a twin-turbine powered dual-piloted tandem-rotor helicopter. The cabin contains provisions for accommodating 25 troops and crew members. The cabin also contains an integral cargo and rescue system. The overall goal of the modification budget in FY 2004 is to keep the H-46 a visible platform until a replacement aircraft can be fielded by upgrading flight critical dynamic components, the engine control system, the electrical system, and the T58-16 engine; and installing on-board vibration monitoring equipment. H-46 helicopters are used by the Marine Corps for troop transport and by the Navy for vertical replenishment of ships. There are currently 285 aircraft (261 active + 24 reserve) in the inventory. USMC: (227) CH-46E + (7) HH-46D; USN: (11) CH-46D + (31) HH-46D + (9) UH-46E). (24) CH-46E's are reserve aircraft. The Navy is in the process of retiring the H-46D himself of inventory as replacement H-60R aircraft are delivered. Original Design Service Life was 10,000 hours. It was subsequently extended to 12,500 hours 18 December 1992 and 15,000 hours 16 February 1996. Aircraft will continue to be flown past 15,000 flight hours on an Age Exploration program.

(TOA, \$ in Millions)

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
25-91	Dynamic Component Upgrade	398.4	2.9	2.4	1.8	1.5						407.0
25-97	Safety Improvement Program	14.2	0.6	1.8	5.6	3.9	4.0	1.7	1.1		1.8	34.8
28-99	Engine Control System Retrofit	21.2	10.4	6.5	6.7	2.1	0.1					47.0
29-99	Electrical System Upgrade	3.8	1.4	1.4	1.5	0.8					1.1	10.0
15-01	T-58 Engine Reliability Improv	3.0	23.0	45.8	56.5	60.5	48.0	45.5	4.3			286.7
10-03	Aircraft Integrated Maintenanc			7.6	9.0	2.5					4.7	23.9
	Total	440.5	38.2	65.6	81.1	71.4	52.1	47.2	5.5		7.6	809.3
Note: Total	s may not add due to rounding.											
	H-46 Series Reserves		0.2	0.2	0.2	0.2	0.3					

P-1 SHOPPING LIST
DD Form 2454, JUN 86

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	Dynamic Component Upgrade (OSIP 25-91)			-
MODELS OF SYSTEMS AFFECTED:	H-46		TYPE MODIFICATION:	Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The H-46 helicopter is nearing the end of its originally planned service life. Several dynamic components failed between 1988 and 1990 due to fatigue. Engineering Change Proposal (ECP)-556 incorporates design improvements to the critical safety items which have been identified by in-service failure and flight strain survey. The changes increase thickness of critical sections and make other specific changes to increase resistance to fatigue damage. The major components include the forward and aft rotor heads, the forward and aft transmissionss, the mixbox, aft vertical rotor shaft, the swashplates, synchronizing shafts, and accessory gear box. ECP-558 changes configuration of the Aircraft Flight Control System (AFCS) which reduces flight loads on critical components. The H-46 presently uses the MD-1 and AHRS gyroscopes for pitch and roll rate input to the AFCS. These gyroscopes were originally designed for indication systems only and do not provide adequate input for pitch and roll rate to the AFCS. DCU was directed by Chief of Naval Operations (CNO) letter 13100 serial 504E/OU603293 dated 30 Aug 90 and approved by ASN (RDA) by Program Management Proposal (PMP) 90-7 on 18 Jan 91.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The dynamic component fatigue testing commenced in Jan 91 and completed in Dec 97. DCU ECP-556 delivered in Dec 91, and the AFCS ECP 558 delivered in Aug 93. The DCU validation completed in September 1995. The DCU flight testing started in Nov 95 and completed in May 97, and production installations are ongoing. The AFCS modification program is complete.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP #556 Kit	312	213.6																				
ECP #558 Kit	315	12.6																				
XXX Kit																						
Installation Kits N/R	4	84.7																				
Installation Equipment																						
GFE		0.5																				
Installation Equipment N/R																						
Engineering Change Orders																						
Moisture Debris Covers		*																				
Wear Plate Blade Atch Fitting		0.2																				
Accessory Gear Box		1.2																				<u> </u>
Horiz. Hinge Pin Bearing		0.2																				<u> </u>
Pitch Link Assembly		0.7		0.1																		<u> </u>
Fuzz Bum-off		0.2																				<u> </u>
Data		2.0																				-
Training Equipment	2	1.8												ļ								
Support Equipment		8.1												ļ								
ILS														ļ								
Other Support		22.6		0.7		0.8		0.9		0.9				ļ								
Interim Contractor Support		2.7												<u> </u>								
Installation Cost	41	47.4					71			0.6	_			ļ								<u> </u>
Total Procurement		398.4		2.9		2.4		1.8		1.5												

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 30 PAGE NO. 2

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																									
MODELS O	F SYSTEM	S AFFEC		H-46						_							ade (DCI				IP 25-91)				
INSTALLAT			The quar	nt overh	aul/repai	r. Most D	OCU confi	guration	compone	nts are in	stalled in	aircraft a dollar fig	t O-level ures in th	, except ne tables	AFC-433 include o	Parts 2 &	12, whic	h are bei ation, GF	ng install M, and ai	ed in aird rcraft ins	craft by de tallation.	-			
ADMINISTR					N/A		Months	_			PRODU	CTION LE				N/A		Months							
CONTRACT	DATES:		FY 2002:		N	/A		_		FY 2003:		N	/A		_		F	Y 2004:		N/A		1	FY 2005: _	N/A	
DELIVERY	DATE:		FY 2002:		N	/A		-		FY 2003:		N	/A		=		F	Y 2004:		N/A		ı	FY 2005: _	N/A	
													(\$	in Millions	s)										
	Cost:		Prior `			2002		2003		2004		2005		2006		2007		2008		2009	To Cor		TAL		
 			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$		
	& PY () ki	ts	41	47.4	79	2.1	72	1.6	71	0.9	49	0.6													
FY 2002	.,																								
FY 2003	.,																					-			
FY 2004	. ,																								
FY 2005																						-			
FY 2007																									
FY 2008	.,																								
FY 2009	. ,																								
	plete () kits	3																							
TOTAL	,		41	47.4	79	2.1	72	1.6	71	0.9	49	0.6													
Installatio	n Schedule	1	FY 20	202			FV.	2003		ı	FY 2	2004		ı	FV	2005			FV /	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	41	20	20	20	19	18	18	18	18	18	18	18	17	17	16	16									
Out	23	18	20	20	20	19	18	18	18	18	18	18	18	17	17	16	16								
																	•								
	1	FY 2	007	4	1	FY:	2008	4	1	FY 2	2009	4		Го		TAL									
lo.	-		3	4			3	4	1		3	4	Com	plete		12									
In Out															_	12	ł								
Out			1 1			·		·	1	1					3	14	ı								

CLASSIFICATION: UNCLASSIFIED

LOWER DUAL BOOST ACTUATOR: This modification is programmed to begin in FY2004.
 NVG COMPATIBLE COCKPIT DOME LIGHT: This modification is programmed to begin in FY2004.

5. SLIDING RESCUE HATCH (HELL HOLE DOOR): This upgrade is complete.

are ongoing. This ECP is being installed concurrent with the H-46 Engine Control System Retrofit (OSIP 28-99).

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	Safety Improvement Program (OSIP 25	5-97)		
MODELS OF SYSTEMS AFFECTED:	H-46	TYPE MODIF	FICATION:	Safety (HONA Category A)
DESCRIPTION/JUSTIFICATION:				
, ,	. ,	r 7100 serial N880F/7U660758 dated 10 Jan 97, and approved as an Abb	reviated Ac	quisition Program (AAP) by the Program Executive Officer (PEO) on 24 Oct 97.
This program contains the following Engineerin				
				with the hydraulic system following installation of the modification. The Utility
		and correct deficiencies to improve system performance. This modification		stalled in 210 CH-46E aircraft (186 active + 24 reserve). king. In addition, the threaded connections in the UDBA control valve assembly
				s, the pilot cannot control the drive direction of the helicopter, a potentially life
•	ě .	ued and currently the actuator undergoes a recurring 200 hour inspection		
		ed in 210 CH-46E aircraft (186 active + 24 reserve).		
3. NIGHT VISION GOGGLE (NVG) COMPATII	BLE COCKPIT and NVG COMPATIBLE CO	OCKPIT DOME LIGHT: The NVG Compatible Cockpit ECP was complete	ed in FY200	00, but did not convert the cockpit dome light. An additional ECP is funded in
FY2004 to convert the cockpit dome light to be	NVG compatible. Inadvertent activation of	f the cockpit dome light switch during NVG operations can result in severe	degradation	on of NVGs, loss of outside reference, and potential loss of aircraft and
, , , , ,	•	reserves) and 226 CH-46E aircraft (202 active + 24 reserve).		
				-shipboard operations to remove salt encrustation. Improved nozzle design
•	ash to be performed with the engine running	ng, and is environmentally friendly. This program will modify the configura	tion of 65 H	I-46D aircraft (all active, no reserves) and 226 CH-46E aircraft (202 active + 24
reserve).	OOD). This FOD is secondate			
5. SLIDING RESCUE HATCH (HELL HOLE DO DEVELOPMENT STATUS/MAJOR DEVELOPM				
UTILITY HYDRAULIC SYSTEM REDESIGN		n in FY2004.		
	, ,	ed for FY 2003, to be followed by an initial kit procurement in FY 2004.		

4. T58-16/402 RUNNING ENGINE WASH: The H-46D model ECP was approved in Nov 97, and the CH-46E model ECP was approved in Dec 97. Kit installations were originally planned to be at O-Level. However, significant problems were encountered installing and operating the wash system, so the H-46 FST re-designed the modification and submitted a new ECP that was approved in May 00. The revised modification installs an airframe and engine modification kit at the D-level. Production installs

	Prior '	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	005	FY:	2006	FY	2007	FY 2	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Hydraulic Sys Upgrade (D)	81	1.1																				
Hydraulic Sys Upgrade (E)	229	3.3																				
Utility Hydraulic Sys Redesign (E)							47	0.2	56	0.2												
Upper Dual Boost Actuat (E)							47	1.6	56	1.9												
Lower Dual Boost Actuat (E)							47	0.4	56	0.5												
NVG Compatible Cockpit (D)	81	3.0																				
NVG Cockpit Dome Light (D/E)							291	0.3														
T58 Running Engine Wash																						Г
PPC-165 (D Engine)	81	0.1																				Г
AFC-477 (D Aircraft)	38	0.1	27	*																		Г
PPC-165 (E Engine)	687	0.8																				Г
AFC-492 (E Aircraft)	64	0.1	59	0.1	71	0.1																Г
Sliding Rescue Hatch (D & E)	66	0.8																				Г
Installation Kits N/R		1.3				1.0		1.8														Г
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.3						0.4														
Training Equipment	3	*	2	*					2	0.1												
Support Equipment		*																				
ILS		0.3																				
Other Support		0.7		0.3		0.5		0.7		0.5												
Interim Contractor Support																						
Installation Cost	440	2.3	69	0.2	59	0.1	72	0.2	47	0.7												
Total Procurement		14.2		0.6		1.8		5.6		3.9												Г

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

MODIFICATION TITLE: Salety Improvement Program (Running Engine Weeth modification)	Exhibit P-3a																										
Section of Implementation Section Sectio	MODELS OF	SYSTEM	S AFFEC	TED:	H-46							MODI	FICATIO	N TITLE:	Safety In	nprovemer	it Program	(Running	Engine W	ash modif	ication)						
DATE FY 2002 Dec-01 FY 2003 Feb-03 FY 2004 NA FY 2005 NA	INSTALLATIO	ON INFOR	MATION:																								
FY 2002 Dec-01 FY 2003 Feb-03 FY 2004 NA FY 2005 NA	METHOD OF	IMPLEME	ENTATIO	N:										Governn	nent Owne	d Contract	or Operated	I (GOCO) F	ield Mod T	eam (FMT)							
FY 2002 Jan 02	ADMINISTRA	ATIVE LEA	DTIME:			5		Months	_			PRODU	CTION LI	EADTIME	Ē:		5		Months								
Cost:	CONTRACT	DATES:		FY 2002:		Dec	:-01		_	ı	Y 2003:		Feb	o-03		_			ı	Y 2004:		N/A				FY 2005:	N/A
Cost:	DELIVERY D	ATE:		FY 2002:		Jar	n-02		_	ı	Y 2003:		Jul	-03		_			ı	Y 2004:		N/A				FY 2005:	N/A
PY 2001 & PY () kits														(\$ i	n Million	s)											
FY 2001 & FY () kits		Cost:		Prior	Years	FY 2	2002	FY:	2003	FY 2	2004	FY	2005	FY:	2006	FY	2007	FY 2008 FY 2009 To Comp						TO	TAL		
FY 2002 () kits				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	_	
FY 2003 () kits	FY 2001	& PY () ki	ts	440	2.3	41	0.1																				
FY 2005 () kits		` '				28	0.1	59	0.1	1	*																
FY 2006 () kits		• •								71	0.2																
FY 2006 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kit	FY 2004	() kits																									
FY 2007 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8. Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 3 4	FY 2005	FY 2005 () kits																									
FY 2008 () kits FY 2009 () kits To Complete ()		.,																									
FY 2009 () kits		.,																									
To Complete () kits	FY 2008	() kits																									
TOTAL		. ,																									
Note: Prior year figures include several D-level modifications including NVG Compatible Cockpit, Running Engine Wash, Sliding Rescue Hatch, and EEDS Removal. FY02 and out figures only include the Running Engine Wash modification. Installation Schedule FY 2001	To Comp	lete () kits	3																								
FY 2001																											
& Prior 1 2 3 4 Complete TOTAL TOTAL	Installation	n Schedule				modificati	ons inclu			tible Cock	xpit, Run			, Sliding	Rescue I			Removal.	FY02 ar			include t	he Runn	ing Engin	ie Wash	n modification.	
In 440 18 17 17 17 15 15 15 15 14 18 18 18 18 18			1			4	1			4	1			4	1			4	1			4					
Out 420 20 18 17 17 15 15 15 14 18 1	In																	-				-					
FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 32 672				-											18	1											
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL in 32 672																											
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL in 32 672	[FY 2007 FY 2008 FY 2009 To																								
	 	1			4	1			4	1		3 4		Complete		то	TAL										
	In															1											
														_													
						-																					

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																										
MODELS OF	SYSTEMS	S AFFECT	ΓED:	CH-46E							MODI	FICATIO	N TITLE:	Safety In	nprovemer	nt Program	n (Utilitv H	ydraulic Sv	stem Rec	lesign & L	ower Dual	Boost Act	uator mod	lifications	·)	
										•		2			,	5 - 3 - 1	, ey	, 0)							,	
NSTALLATIC	ON INFOR	MATION:																								
METHOD OF	IMPLEME	NTATION	N:										Governn	nent Owne	d Contract	or Operated	d (GOCO) F	Field Mod T	eam (FMT))						
ADMINISTRA	TIVE LEA	DTIME:			3		Months	-			PRODU	CTION LI	EADTIME	: :		12		Months	-							
CONTRACT [DATES:	ı	FY 2002:		N	/A		_	ı	Y 2003:		N	/A		_			ı	FY 2004:		Dec-03				FY 2005:	Dec-04
DELIVERY DA	ATE:	ı	FY 2002:		N	/A		_	1	FY 2003:		N	/A		_			ı	FY 2004:		Dec-04				FY 2005:	Dec-05
													(\$ i	n Million	s)											
	Cost:		Prior	Years	FY 2	2002	FY:	2003	FY:	2004	FY:	2005	FY:	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
FY 2001 8		S																							4	
FY 2002 (,																								4	
FY 2003 (FY 2004 (. ,				-						47	0.7			ł						-				-	
FY 2004 (47	0.7													1	
FY 2006 (1	
FY 2007 (. ,																								1	
FY 2008 () kits																									
FY 2009 () kits																									
To Comple	ete () kits																									
TOTAL											47	0.7														
Installation	Schedule																									
F	FY 2001 FY 2002 FY							2003			FY 2004				FY	2005			FY	2006						
_	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In Out															15	16	16									
Out			l					l				l		l	l	15	16	I	l		l .					
Г		FY 20	007		I	FV 1	2008			FY 2	2009	То			Ī		1									
-	1 2		3	4	4 1		3	4	1	2	3 4		Complete		то	TAL										
In	<u> </u>				Ì	2									Ī		1									
Out					Ì												1									

P-1 SHOPPING LIST
DD Form 2454, JUN 86 ITEM NO. 30 PAGE NO. 7 CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Engine Control System (ECS) Retrofit (OSIP 28-99)

MODELS OF SYSTEMS AFFECTED: H-46 TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The current H-46 Engine Condition Control System (ECCS) has several failure modes which cause engines to shut down in flight; this presents a significant safety hazard to the fleet. Three bulletins have been issued by NAVAIR to inspect for system deficiences. A formal system safety analysis utilizing historical failure data defines this as a Category One hazard and predicts six to seven failures per year. In the last three and a half years there have been 35 hazard reports (HAZARD) issued documenting this failure mode, and it is estimated that 20 more have occurred which have not been reported through the HAZREP system. The aircraft has a limited gengine operating envelope and is vulnerable to engine failure while flying and hovering over water. There have been five aircraft lost at sea in which pilots reported engine failure as the cause of the mishap. The aircraft were not recovered, and therefore, the specific engine failure mode could not be determined, but it is likely that ECCS caused some of the engine failures and ultimately led to the loss of aircraft. The proposed solution to this safety problem is to convert to an alternative Engine Control System (ECS) utilized by the commercial variant of the H-46. The proposed ECS will eliminate the safety failure modes, has a proven track record, needs only slight modification for military use, increases reliability, and will increase aircraft capability through increased engine responsiveness. Implementation will require configuration changes to the airframe and the engine. This is an urgent safety issue that must be resolved to eliminate future loss of crew and aircraft. This modification is being installed on 65 H-46D aircraft (all active); and on 226 CH-46E aircraft (202 active + 24 reserve).

DEVELOPMENT STATUS/MA/JOR DEVELOPMENT MILESTONES: The contract for Proof of Concept, validation and verification(val/ver) kits for this Non-Development Item (NDI) was awarded May 1999, and the Engineering Change Proposal (ECP) was approved in June 2000. Validation installation for D-model was completed 2nd quarter FY01, followed immediately by EMI testing and Verification installation in 3rd quarter FY01. Production installations in Navy D-models are complete. The CH-46E Validation/Verification installation and Electromagnetic Compatability Testing (EMC) testing are complete, and production E-model installations are in process.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY:	2005	FY:	2006	FY:	2007	FY 2	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A-Kit D-Model Airframe Kit	63	0.4																				
A-Kit E-Model Airframe Kit	50	0.6	72	0.8	71	0.9	32	0.4														
B-Kit D&E-Model Airframe Kit	113	7.2	72	3.9	8	0.4	32	1.8														
B-Kit (RILOP)					63	0.1																I
Overspeed Kit (D/E-Model)	226	0.9	144	0.7	142	0.7	64	0.3														
QEC-3 (D-Aircraft)	130	0.5																				
QEC-4 (E-Aircraft)	102	0.3	144	0.3	142	0.3	64	0.2														
Fuel Line Assy Kit (D-Aircraft)	63	0.1																				
Fuel Priming System (D-Aircraft)				0.1																		l
Installation Kits N/R	3	4.4		0.2																		
Installation Equipment																						
Control Boxes	79	0.3																				
Engine Condition Actuator						0.2		0.1		0.1												
Installation Equipment N/R																					igwdown	
Engineering Change Orders																					igwdown	
Actuator Mod		0.1																			 	—
XXX Equip ECO XXX																					 	—
Data		1.0		*				0.1													 	—
Training Equipment	8	0.5																			 	—
Support Equipment		0.3																			$\vdash \vdash$	-
ILS		0.8		0.5		0.3		0.3													$\vdash \vdash \vdash$	
Other Support		2.4		0.9		1.1		0.7		0.3											$\vdash \vdash \vdash$	
Interim Contractor Support												<u> </u>										
Installation Cost	37	1.3	79		72	2.4	71	2.9														
Total Procurement		21.2		10.4		6.5		6.7		2.1				I							i I	

Notes:

Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST

DD Form 2454, JUN 86

P-1 SHOPPING LIST

ITEM NO. 30 PAGE NO. 8

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																									
MODELS OF	SYSTEMS	AFFECT	TED:	H-46	(OSIP 28-	-99)				-	MOD	IFICATIO	N TITLE:	ENGINE	CONTRO	SYSTEM	RETROF	IT							
INSTALLATIO	ON INFORI	MATION:																							
METHOD OF	IMPLEME	NTATION	l:										Gover	nment Ow	ned Contr	ctor Opera	ated (GOCC	O) Field Mo	d Team						
ADMINISTRA	TIVE LEA	DTIME:			4		Months	<u>.</u>			PRODU	CTION LE	EADTIME	:		6		Months							
CONTRACT [DATES:	F	FY 2002:		Dec	o-01		=		FY 2003:		Jar	n-03		_		1	FY 2004:		Dec-03				FY 2005:	N/A
DELIVERY DA	ATE:	F	FY 2002:		Oct	t-02		=		FY 2003:		Jul	-03		_		ı	FY 2004:		Oct-04				FY 2005:	N/A
													(\$ in	Millions)											
	Cost:		Prior '	Years	FY 2	2002	FY:	2003	FY	2004	FY	2005	FY 2	2006	FY	2007	FY 2	2008	FY:	2009	To Co	mplete	TO	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8		s	37	1.3	79	2.9		<u> </u>																	
FY 2002 (•						72	2.4																	
FY 2003 (₩	<u> </u>		<u> </u>	71	2.9													-		
FY 2004 (FY 2005 (\vdash	<u> </u>		 	├ ──	<u> </u>	32	1.7											-		
FY 2006 (•				+	$\vdash \vdash$	 	├──	₩	\vdash															
FY 2007 (\vdash																
FY 2008 (\vdash				\vdash																
FY 2009 (•							<u> </u>																	
To Comple	•																								
TOTAL			37	1.3	79	2.9	72	2.4	71	2.9	32	1.7													
Installation	Schedule																								
	Y 2001		FY 2	002			FY:	2003			FY	2004			FY	2005			FY:	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In Out	37	19	20	20	20	18	18	18	18	18	18	18	17	16	16	- 10									
Out	20	17	19	20	20	20	18	18	18	18	18	18	18	17	16	16				l	l				
Г		FY 20	007		$\overline{}$	EV	2008		$\overline{}$	EV	2009		Т	·o	1		1								
	1	2	3	4	1	2	3	4	1	2	3	4		o plete	TO	TAL									
In	'		3		 			-			,	7	Colli	PIGIG		91	1								
								ь—								<i>7</i> 1	ı								

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	Electrical System Upgrade (OSIP 29-99)			
MODELS OF SYSTEMS AFFECTED:	CH-46E		TYPE MODIFICATION:	Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: The power generation system has been the cause of ten hazard reports (HAZREP) over the past three years. The causal factor has been traced back to the generators and the voltage control system. Two incidents resulted in dual generator failure, and seven incidents resulted in aircraft smoking/fires. (One of those fires was caused by flammable fluid ingestion into the generator that turned a hydraulic leak into a massive fire that consumed the entire aircraft in a Class A mishap.) A formal system safety analysis utilizing historical failure data defines this hazard as a potential Category One hazard and predicts two to three failures per year. This is an urgent safety problem that must be alleviated to eliminate loss of life and aircraft. The proposed solution is to modify the power generation system to eliminate the safety problem, provide cleaner power to sensitive avionics components, and improve performance of the generator to meet the power demand for future electrical installation in the aircraft. This modification will be installed in 224 CH-46E aircraft (200 active + 24 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The contract for development and qualification of a new generator control panel awarded in June 2000. Preliminary Design Reviews (PDR) have been completed as well as breadboard and bench testing. Validation/verification installations and environmental testing are complete. Production modification kits deliveries began delivering in Sep 2002, and installations are ongoing.

FINANCIAL PLAN: (TOA, \$ in Millions)

·	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY:	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A- Kit																						
XXX Kit																						
XXX Kit																						
Installation Kits N/R		0.7																				
Installation Equipment																						
Main Generator Control Unit (GCU)			138	0.4	104	0.3	128	0.3														
Auxiliary Power GCU			69	0.2	52	0.1	64	0.2														
Generator			185	0.1																		
Installation Equipment N/R	6	0.8																				
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						<u> </u>
Data		0.6						0.1														
Training Equipment		0.6	2	*																		<u> </u>
Support Equipment	11	*	12		12	0.1																<u> </u>
ILS				0.2		0.3		0.2		0.2												├──
Other Support		1.1		0.4		0.7		0.7		0.6												├──
Interim Contractor Support																					igspace	
Installation Cost																						
Total Procurement		3.8		1.4		1.4		1.5		0.8												

UNCLASSIFIED DD Form 2454, JUN 86 ITEM NO. 30 PAGE NO. 10 CLASSIFICATION:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-3a Individual Modification

MODIFICATION TITLE: T-58 Engine Reliability Improvement Program (ERIP) (OSIP 15-01)

MODELS OF SYSTEMS AFFECTED: CH-46E (T58-GE-16 Engine) TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: T58-GE-16 reliability and performance trends are unacceptable, and are severely impacting Fleet safety, readiness and warfighting capability. The T58-GE-16 reliability and performance trends are unacceptable, and are severely impacting Fleet safety, readiness and warfighting capability. The T58-GE-16 fill in Fill

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Congress approved \$3M plus-up in FY 2001 for risk mitigation, prototypes and NRE; the contract for these efforts awarded in January 2001. The prototype engine gas path modules were delivered in Apr 2002, and the engine prototypes were completed in July 2002. An LRIP (low rate initial production) contract was awarded in August 2002, and gas path module deliveries started in January 2003. Approval for Full Production is expected in March 2003, to be followed by exercising a contract option for production articles in April 2003.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	002	FY 2	2003	FY 2	004	FY 2	005	FY 2	2006	FY 2	2007	FY	2008	FY2	2009	To Cor	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Gas Path Module Kit			30	15.2	77	38.2	88	41.0	99	44.5												
Accessory Kit			41	0.4	101	0.9	112	1.0	42	0.4												
T-5 Harness Kit			20	0.0	23	0.1	26	0.1	31	0.1												
Installation Kits N/R	3	2.2		2.4		0.9																
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						<u> </u>
Erosion Blade Coating								4.3		6.2												<u> </u>
Preplanned Product Improvement										1.4												<u> </u>
Data				0.6		0.1		0.7		1.1												<u> </u>
Training Equipment								1.0		1.0												<u> </u>
Support Equipment				0.8	7	2.3		2.6		1.5												<u> </u>
ILS																						<u> </u>
Other Support		0.8		2.0		2.2		4.0		4.3		-		-		-		-				
Interim Contractor Support																						
Installation Cost			1	1.6		1.1	7	1.8														<u> </u>
Total Procurement		3.0		23.0		45.8		56.5		60.5												

Notes

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 30 PAGE NO. 11

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																											
MODELS OF	SYSTEM	S AFFEC	TED:	CH-46E	(T58-GE	-16 Engir	ne)			-	MOD	IFICATIO	N TITLE:	T-58 En	gine Reli	ability Imp	orovemen	t Progran	n (Engine	Modifica	ation)						
INSTALLATI	ON INFOR	MATION:																									
METHOD OI	F IMPLEMI	OITATIO	N:	Modify 6	engine co	ncurrent	with repai	r at NADE	P Cherr	/ Point																	
ADMINISTR.	ATIVE LEA	DTIME:			3		Months	-			PRODU	CTION L	EADTIME	i:		9		Months									
CONTRACT	DATES:		FY 2002:	:	Au	g-02		_		FY 2003:		Ар	r-03		_			I	FY 2004:		Nov-03		_		FY 2005:	Nov-04	
DELIVERY [DATE:		FY 2002:		Jar	n-03		-		FY 2003:		Ар	r-04		_			I	FY 2004:		Sep-04		_		FY 2005:	Sep-05	
													(\$ i	n Millions	s)												
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY:	2008	FY:	2009	To Co	mplete	TO	TAL			
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
	& PY () ki	ts			1	1.6																			1		
FY 2002								1.1																	4		
FY 2003												ļ				ļ											
FY 2004				ļ																					4		
FY 2005				ļ																					4		
FY 2006			-																						4		
FY 2007												1				1									4		
FY 2008				1																					4		
FY 2009																									+		
TOTAL	olete () kits			1	1	4.0		4.4																	_		
Note: Ins	-11-4: 4:	alta a ta ali		:e: 4:				1.1			i- F\	(00													_		
Note: Ins	allation ful	naing incit	iaes moa	incation c	or (4) acce	essory sn	ipsets in	FYU2 + (1	2) acces	sory snip	sets in F	103.															
Installation	n Schedule																										
	FY 2001		FY 2	2002			FY	2003			FY	2004			FY	2005			FV '	2006		1					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In				1																		1					
Out					1																	Ī					
																	_					-					
		FY 2					2008				2009		Т	Го													
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL	1										
In			<u> </u>	<u> </u>												1	1										
Out																1	J										

Exhibit P-3a																											
MODELS OF	SYSTEM	S AFFECT	ΓED:	CH-46E	(T58-GE	-16 Engi	ne)				MOD	IFICATIO	N TITLE:	T-58 En	gine Relia	ability Imp	rovemen	t Progran	(Test C	ell Modific	cation)						
INSTALLATI	ON INFOR	MATION:																									
METHOD OF	F IMPLEME	ENTATION	N:												Contrac	tor Field M	lod Team										
ADMINISTRA	ATIVE LEA	DTIME:			3		Months	_			PRODU	CTION LE	EADTIME	<u>:</u>		10		Months									
CONTRACT	DATES:		FY 2002:		N	I/A		-		FY 2003:		Feb	o-03		_			ı	Y 2004:		N/A				FY 2005:	N/A	
DELIVERY [DATE:		FY 2002:		N	I/A		-		FY 2003:		Jar	n-04		-				Y 2004:		N/A				FY 2005:	N/A	
													(\$ i	n Millions	s)										_		
	Cost:		Prior	Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY:	2006	FY:	2007	FY 2	2008	FY 2	2009	To Co	mplete	TO	ΓAL			
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	_		
	& PY () ki	ts																							4		
FY 2002	.,																								4		
FY 2003									7	1.8															4		
FY 2004 FY 2005				-	1	-	-						-		1		-								+		
FY 2006	-																								†		
FY 2007																									†		
FY 2008	` '																								†		
FY 2009																									7		
	olete () kits																								7		
TOTAL									7	1.8															1		
Installation						1								ı								1					
	FY 2001 & Prior	1	FY 2	3	4	1	FY 2	2003	4	1	FY:	2004	4	1	FY :	2005	4	1	FY 2	3	4						
In	Q 1 1101				1 4			3	-		2	2	3	<u> </u>			-			3	-						
Out												2	2	3													
											1								1								
		FY 20	007			FY	2008			FY:	2009		Т	ō			1										
l l	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	то	TAL											
In																7											
Out																7											

Individual Modification	
	Individual Modification

MODIFICATION TITLE: Aircraft Integrated Maintenance System (AIMS) (OSIP 10-03)

MODELS OF SYSTEMS AFFECTED: CH-46E TYPE MODIFICATION: R&M (HONA Category B)

DESCRIPTION/JUSTIFICATION: AIMS is a Commercial Off The Shelf (COTS) vibration monitoring system to be permanently installed in the aircraft. AIMS is a comprehensive set of aircraft monitoring hardware and support software. The purpose of the system is to build support equipment functions into the aircraft as a permanent installation. Thus, AIMS will eliminate most H-46 peculiar support equipment requirements. This equipment will provide aircrews immediate feedback on aircraft condition and engine performance, which enhances the ability to predict catastrophic failures and reduces maintenance costs. In 1997, PMA226 fielded new vibration equipment to a small sample of H-46 aircraft and implemented a 100 hour vibration monitoring has been instrumental in predicting (and preventing) impending component failures. For example, vibration data was received from an aircraft that had undergone three aft transmission removals for input pinion seal leakage. Analysis of the vibration monitoring data revealed a major problem with the #2 engine. Further investigation of the engine revealed impending failure of the right angle drive bearings. Failure of the engine may have resulted in damage or loss of the aircraft. Another example is an aircraft that, while performing a 100 hour vibration check, experienced aft transmission vertical vibration levels that exceeded acceptable limits. Further investigation revealed impending failure of the electrical generator. Without vibration monitoring, the problem with the generator would have gone undetected until catastrophic failure. Failure of the generator may have resulted in an electrical fire and/or collateral damage to the aircraft. This modification will be installed in 217 aircraft (193 active + 24 reseve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering is planned in FY03 to integrate the COTS into the H-46 aircraft, design an installation kit, modify CDNU (Control Data Navigation Unit) software, and prepare technical data. The installation kit and hardware will be procured in FY04, and installed in FY05.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY 2	2003	FY:	2004	FY 2	2005	FY:	2006	FY	2007	FY	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						<u> </u>
A- Kit							154	3.2														<u> </u>
XXX Kit																						<u></u>
XXX Kit																						<u></u>
Installation Kits N/R					4	6.4																<u></u>
Installation Equipment							154	4.7														<u></u>
XXX Equip																						L
Installation Equipment N/R																						L
Engineering Change Orders																						L
XXX Kit ECO XXX																						L
XXX Equip ECO XXX																						<u> </u>
Data										0.1												<u> </u>
Training Equipment																						<u> </u>
Support Equipment																						L
ILS																ļ						<u> </u>
Other Support	-	-		-		1.2		1.0		0.5	-		1				1					
Interim Contractor Support	+	<u> </u>		<u> </u>			<u> </u>						<u> </u>			<u> </u>	<u> </u>			<u> </u>	<u> </u>	
Installation Cost	_						4		154													<u> </u>
Total Procurement			I			7.6		9.0		2.5					I			I	I			1

Notes

P-1 SHOPPING LIST
DD Form 2454, JUN 86 CLASSIFICATION: UNCLASSIFIED

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

thibit P-3a																									
ODELS OF	SYSTEMS	S AFFECT	ED:	CH-46E						_	MODI	IFICATIO	N TITLE:	Aircraft	Integrated	Mainten	ance Sys	tem (AIM	S) (OSIP	10-03)					
ISTALLATIO	N INFOR	MATION:																							
ETHOD OF	IMPLEME	NTATION	l:										Gover	nment Ow	ned Contra	ctor Opera	ted (GOCO) Field Mo	d Teams						
OMINISTRA	TIVE LEAI	DTIME:			3		Months	<u>s</u>			PRODU	CTION LI	EADTIME	i:		8		Months							
ONTRACT I	DATES:		Y 2002:		N	I/A				FY 2003:		Ma	y-03					FY 2004:		Jun-04				FY 2005:	N/A
ELIVERY D	ATF:		FY 2002:					_		FY 2003:					=			Y 2004:		Dec-04		•			N/A
			. 2002.					=		2000.		- Juli			_			. 200		200 0 1				2000	1973
	Cost:		Prior '	Years	FV.	2002	FV	2003	FV	2004	FV '	2005		n Millions 2006	<u> </u>	2007	FV 1	2008	FV '	2009	To Co	mnlete	TO	TAL	
	3001.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8	k PY () kit:	s																							
FY 2002 () kits																								
FY 2003 (4	0.1															
FY 2004 (154	2.0													
FY 2005 (
FY 2006 (•							ļ																	
FY 2007 (
FY 2008 (
FY 2009 (To Compl								-															-		
TOTAL	ete () kits							1		0.1	154	2.0													
Installation	Schedule																								
	Y 2001		FY 2					2003	1			2004	1			2005				2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In Out											2	2	0		51	51	52								
Out					l		<u> </u>	<u> </u>		<u> </u>		2	2			51	51			l	1	l			
Г		FY 20	007			FV ·	2008		ı	EV '	2009		Г -	-o	I		1								
ŀ	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO	TAL									
In	- +			-	<u> </u>						Ŭ		0011	p.010	,,										
							1	1									L								

Exhibit P-40, BUDGET ITEM JUSTIFICATION	·	·	·	·	·		·			DATE:		·
											Febru	ary 2003
APPROPRIATION/BUDGET ACTIVITY								P-1 ITEM NOM	ENCLATURE	•		
Aircraft Procurement, Navy/APN-5 Aircraft Modifications											AH-1W Serie	s Modifications
Program Element for Code B Items:								Other Related I	Program Eleme	nts		
		ID									To	
	Prior Year	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		Α										
0007												
COST (In Millions)	382.9	Α	14.7	19.7	5.8	2.2	7.7	1.7	1.7	1.7	13.4	451.6

This line item funds modifications to the AH-1W aircraft. Modifications prior to FY 1997 were funded in the H-1 Series line item. There are 193 AH-1W's. The AH-1W is a tandem seat, two place (pilot and gunner/co-pilot) attack helicopter designed and built to provide the high speed and maneuverability required by the attack mission. The armament of the AH-1W includes the SIDEWINDER, TOW and the HELLFIRE missile systems, a chin-mounted 20mm turret gun, and wide variety of forward firing and gravity released external stores. Operational Requirements Document (ORD) AAS-3 covers all OSIPs listed below. The overall goal of the modifications budgeted in FY2004/2005 is to continue to fulfill the operational requirement to detect, identify and destroy tactical sized armored targets with precision guided munitions during the day, at night, and during adverse weather, as well as providing enhanced conventional weapons delivery by utilizing the systems laser ranging and designating system. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

OSIP No.	<u>Description</u>	Prior Year	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
8-90	AH-1 Night Targeting System	313.9	3.4	6.0								323.3
3-93	AH-1 Embedded GPS/ARC-210 NAV Upgrade	59.7	1.7	0.0								61.3
16-98	AH-1W APR-39A(V)2	4.2										4.2
12-00	H-1 Mission Planning Module and OFP Software Upgrade Program	1.7	1.0	0.6	1.0	1.0						5.4
13-00	AH-1W Aircraft and T700 Engine Safety Corrections	3.4	8.6	10.4	4.8	1.2	1.3	1.2	1.7	1.7		34.3
02-03	AH-1 20MM Linkless Feed			2.8			6.4	0.4			13.4	23.1
	Total	382.9	14.7	19.7	5.8	2.2	7.7	1.7	1.7	1.7	13.4	451.6
RESERVE	FUNDING INCLUDED IN THE TOTALS:	0.5										
	tals may not add due to rounding. ior to FY 1997 AH-1W OSIPs were budgeted in the H-1 Series P-1 Line Item.											

P-1 SHOPPING LIST ITEM NO. 31 PAGE NO.1 of 11

Exhibit P-3a	Individual Modification
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MODIFICATION TITLE: AH-1 Night Targeting System (OSIP 8-90)

MODELS OF SYSTEMS AFFECTED: AH-1W TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The U.S. Marine Corps (USMC) has an operational requirement to detect, identify and destroy tactical sized armored targets with precision guided munitions during day, night and adverse weather conditions. The AH-1W can deliver TOW missiles during day operations and HELLFIRE missiles. The Night Targeting System (NTS) provides a night/adverse weather TOW and autonomous HELLFIRE capability. In addition, NTS will provide enhanced conventional weapons delivery by utilizing the systems laser ranging system. This modification has two key parts: (1) the modification of the cockpit and the canopy places a radar altimeter in the front cockpit for the first time: and (2) the NTS itself. The Night Vision Goggle Helmet mounted Display and Improved Crew Restraint System completes the NTS modification. NTS will accomplish the USMC requirement for night operations by incorporating a high resolution stabilized forward looking infra-red sensor, charged coupled edvice camera system, automatic target tracking, and laser range finder/designator into the current M65 telescopic sight unit. Due to changes in the TOW missile control by addition of the NTS, a Buffer Box is being incorporated to ensure proper operation of the TOW missile with the NTS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AH-1W Fleet has been fully outfitted with The Night Targeting System. There is a requirement to upgrade The Night Targeting System on the AH-1W flying until 2015. Upgrades will include but not limited to replacement of the first generation FLIR with a third generation FLIR, replacing the black and white TV with a color TV, improve boresight, and continue to look at reliability and stabilization issues.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY	2006	FY:	2007	FY 2	2008	FY 2009	To Co	omplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$
RDT&E																					
PROCUREMENT																					
Installation Kits																					
Accelerataed Kits	5	2.0																			
NTS Kit ECP # 1648	132	129.4			8	4.7															
A/F Kit ECP # 1648	128	37.5																			
TOW BUFFER ECP#H1-CP20-98	202	1.8																			
Installation Kits N/R		19.5		0.9		0.2															
Installation Equipment																					
GFE Retrofit		5.2		0.3																	
NTS GFE	79	1.5																			
5 PT RESTRAINT GFE	41	1.8																			
VCRs	137	3.6																			
Installation Equipment N/R		2.0		0.2		0.2															
Engineering Change Orders		7.5																			
Data		1.2		0.2																	
Training Equipment	4	4.0		0.4																	
Support Equipment		14.9		0.2																	
ILS		14.2		0.1		0.3															L
Other Support		22.6		1.0		0.5															L
Interim Contractor Support																					
Installation Cost	128	45.1																			
Total Procurement		313.9		3.4		6.0					I		I							1 !	i

Notes:

1. Totals may not add due to rounding

3. FY01 NTS Units will be shipped directly to the fleet to be installed by the Fleet Squadron (O -Level) All Modifications to the Aircraft have been completed in FY00. The FY01 Funding buys NTS only.

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST ITEM NO. 31 PAGE NO. 2 of 11

Exhibit P-3a																										
MODELS OF	SYSTEMS	S AFFECT	ED:	AH-1W							MOD	IFICATIO	N TITLE:	AH-1 NIG	HT TARG	ETING SY	STEM (OS	SIP 8-90)								
INSTALLATION	ON INFOR	MATION:																								
METHOD OF	IMPLEME	NTATION	l:	Contractor D	rive-In Mod	dification (T	urn Key) th	rough FY97	7. Annualiz	ed FY98 a	nd out.															
ADMINISTRA	ATIVE LEA	DTIME:			2		Months	<u>.</u>			PRODU	CTION L	EADTIME	:		12		Months	•							
CONTRACT	DATES:	FY 2002:					_	FY 2003:					_		FY 2004:							FY 2005	:			
DELIVERY D	ATE:	FY 2002:					=	FY 2003:					_		FY 2004:							FY 2005	:			
													(\$ in Milli	ons)												
	Cost:		Pric	or Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY 2	2006	FY	2007	FY 2	2008	FY 2	2009	To C	omplete	TO	ΓAL]	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
	1& PY (128) kits	128	45.1																					4	
FY 2002							-																		1	
FY 2003 FY 2004																									1	
FY 2004																									•	
FY 2006																									1	
FY 2007																									1	
FY 2008	() kits																								1	
FY 2009	() kits																									
To Comp	lete () kits																									
TOTAL			128	45.1																						
Installation	Schedule																									
	FY 2001		FY	2002			FY 2	2003			FY	2004			FY	2005			FY 2006	6		1				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4]				
In	128																									
Out	128]				
																	-									
			2007				2008				2009		4	o												
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	•	TAL										
In .							 	ļ		ļ						28										
Out															1.	28	J									

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	AH-1W Embedded GPS/ARC-210 Navigation Upgrade Program (OSIP 3-93)		
MODELS OF SYSTEMS AFFECTED:	AH-1W	TYPE MODIFICATION:	Upgrade
system will allow the AH-1W weapon system to remove equipment that is app	ated that all U.S. military incorporate Global Positioning System (GPS) as their primary navigal oroaching obsolescence while improving the operationitional capability and reducing the overal GI) and ARN-153(V)4 TACAN. The navigation system solution will be displayed on a modified	Il weight of the aircraft. The ARI	N-118 TACAN, and ARN-89 Automatic Direction Finder, ASN-75 Gyrocompass and

The AN/ARC-210 is combination UHF/VHF, AM/FM jam-resistent radio that was developed to allow for Electronic Protection(EP) interoperability with the Air Force, Army and NATO. It will be installed with this modification. The radio provides a dual UHF capability for CV based TACAIR; VHF-FM for close air support and maritime channels; VHF-AM for air traffic control; and EP capabilities using the Air Force waveform (UHF-FM HAVEQUICK I AND II), and the Army developed waveform (UHF-FM SINCGARS). The EP parameters and single channel preset information can be loaded via CYZ-10 Data Transfer Device (DTD). The ARC-210 system needs accurate time signatures to perform the frequency hopping functions. These time signatures will be provided from the EGI systems. The Cobra 1.0 series of software operational flight program facilitates use of mission planning software which capitalizes on the improved communications capability and more accurate navigation provided by GPS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The EGI is a non-developmental item (NDI) being procured through the Air Force as DOD C3I. The Air Force approved a Milestone III Full Rate Production Decision March 1994. The first AN/ARC-210 Integration units were procured in FY 1993. AN/ARC-210 Milestone III Full Rate Production was approved April 1994. This modification will cover 182 AH-1W aircraft and two AH-1W trainers. FY 98 and FY 99 Other Support funds H-1 MPM compatibility /conversion.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Pi	rior Years	FY	2002	FY	2003	FY:	2004	FY 2	2005	FY 2	2006	FY:	2007	FY:	2008	FY:	2009	To Co	mplete	1	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits ECP # 1686	182	13.6																				
Installation Kits N/R		3.1																				
Installation Equipment																						
GFE Retrofit		0.2		0.1																		
CDNU GFE	358	4.6																				
ARC-210 GFE	4	0.3																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.9		0.3																		
Training Equipment	2	0.3																				
Support Equipment		2.0																				
ILS		1.3		0.1																		
Other Support		12.6		0.6																		
Interim Contractor Support		, and the second										, in the second										
Installation Cost	164	19.8	20	0.6																		
Total Procurement		59.7		1.7																		

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 31 PAGE NO. 4 of 11

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																										
MODELS OF S	YSTEMS A	FFECTED:		AH-1W				_	М	ODIFICATI	ON TITLE:	AH-1 Em	bedded GI	PS/ARC-2	10 Naviga	tion Upgra	de Progran	n (OSIP 3	-93)						_	
NSTALLATION	INFORMA	TION:																								
METHOD OF IN	MPLEMENT	TATION:		Contr	actor Dri	ve-in Modi	fication (turn-key) fo	r kit procu	urements	hrough F	Y 1996. F	Y 1997 thi	ough FY	2000 cont	ractor driv	ve-in mod	fication;	and FY 20	001 & out	contracto	or field mo	dification	ı team.	_	
DMINISTRATI	VE LEADT	IME:		4	Months	<u>s</u>			PRODUC	CTION LEA	DTIME:			12		Months	<u>.</u>									
ONTRACT DA	ATES:	FY 2002:			•	FY 2003					_		FY 2004:						FY 2005:					-		
ELIVERY DAT	ΓE:	FY 2002:				FY 2003:					_		FY 2004:						FY 2005:					_		
											(\$ in Millior	ıs)										_			
	Cost:		Prior	Years	FY	2002	F١	/ 2002	FY	2003	FY	2004	FY	2005	FY	2006	FY 2	2007	FY	2008	FY	2009	To C	Complete	тот	AL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & P	Y (184) kits	;	164	19.8	20	0.6																				
FY 2002 () ki	its																									
FY 2003 () ki	its																									
FY 2004 () ki	its																									
FY 2005 () k	its																									
FY 2006 () k	its																									
FY 2007 () k	its																									
FY 2008() ki	its																									
FY 2009() ki	ts																									
To Complete	() kits																									
TOTAL			164	19.8	20	0.6																				
Installation										•				ı								7				
	Y 2001	-	2	2002		_	2	2003	1 4	4	2	2004		-	2	2005		-			2006	-				
	& Prior	1		3	4	1		3	4	1		3	4	1		3	4	1	2	3	4	-				
In Out	164	7	6	6	6	_	-	1	1	1				-							-	-				
Out	158	/	1	ь	6	6									l							J				
Г		F)/ 0	007		1	E)/	0000		1	E) (2000		г .		r		1									
F	1	FY 2	3	4	1	2	2008	4	1	2	2009	4	1	0	т.	т.										
. +	1	2	3	4	1		3	4	1		3	4	Con	plete	•	TAL	1									
In						<u> </u>				-					_	84 84										
Out																										

UNCLASSIFIED CLASSIFICATION:

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	AH-1W APR-39A(V)2 (OSIP 16-98)			
MODELS OF SYSTEMS AFFECTED:	AH-1W		TYPE MODIFICATION:	Survivability

DESCRIPTION/JUSTIFICATION: Existing AH-1W aircraft self-protection/survivability systems are inadequate to cope with present-day threats. This engineering change incorporates a survivability system that reduces aircrew workload, centralizes control functions and increases the helicopter's survivability during operations in or near hostile territory by providing additional threat detection capabilities; and enhanced missile and laser detection systems. The EW System consists of:

a. Installation of the AN/AAR-47 Missile Warning Set

b. Modification to the existing wiring for installation of the APR-39(V)2 RWR c. Removal of the AN/APR-44(3) Radar Warning System (MWS), and required interfaces

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This program utilizes operationally approved hardware to increase aircraft self protection and survivability. This modification will cover 77 AH-1W aircraft and two AH-1W trainers.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior \	Years	FY	2002	FY	2003	FY 2	2004	FY:	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY 2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	77	0.5																				
Installation Kit - Unit Price																						
Installation Kits N/R		0.1																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				
Training Equipment	2	0.2																				
Support Equipment		0.4																				
ILS		0.1																				
Other Support		1.1																				
Interim Contractor Support																						
Installation Cost	79	1.7																				
Total Procurement		4.2																				

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 31 PAGE NO. 6 of 11

MODELS OF SYSTEMS AFFECTED: AH-IW																									
STALLATION INFORMATION: Contractor Field Mod Teams	Exhibit P-3a					-		-								-		-		-					-
Contract Field Mod Teams PRODUCTION LEADTIME: 4 Months	MODELS O	F SYSTEM	IS AFFEC	TED:	AH-1W				-	MOD	IFICATIO	N TITLE:	AH-1W A	PR-39A(V)	2 (OSIP 1	6-98)									
DMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 4 Months	INSTALLAT	ION INFOR	RMATION:																						
FY 2004 FY 2005 FY 2005 FY 2006 FY 2007 FY 2008 FY 2	METHOD C	F IMPLEM	ENTATIO	N:	Contrac	ctor Field	Mod Tea	ms																	
FY 2004 FY 2005 FY 2005 FY 2006 FY 2007 FY 2008 FY 2													_												
FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL	ADMINISTR	ATIVE LEA	ADTIME:		2	Months	<u> </u>			PRODU	CTION L	EADTIME	=:		4		Months	-							
Cost:	CONTRACT	DATES:	FY2002	:		_	FY 2003	:				_		FY 2004:					-		FY 2005:				
Cost:	DELIVERY	DATE:	EV 2002				EV 2003							EV 2004:							EV 2005:				
Cost:	DELIVERT	DATE.	1 1 2002			-	1 1 2003					-		1 1 2004.					-		1 1 2000.				
Complete () kits														(\$	\$ in Millio	ns)								_	
FY 2001 & PY (79) kits		Cost:			Years	_		_	/ 2003	_	2004	_	2005			_	2007		2008		2009				
FY 2002 () kits FY 2003 () kits FY 2005 () kits FY 2005 () kits FY 2006 () kits FY 2006 () kits FY 2006 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2000 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2001 FY 2005 FY 2006 FY 2006 FY 2006 FY 2007 FY 2008 FY 2009 TO TOTAL In TO TAL In TAL IN TA							\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2004 () kits FY 2006 () kits FY 2006 () kits FY 2007 () kits FY 2007 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 1 4 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		_ ,	kits	79	1.7	<u> </u>																			
FY 2004 () kits FY 2005 () kits FY 2006 () kits FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 3 4 1 1 2 3 3 4				1						1	1				1										1
FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits TO Complete () kits TOTAL FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2005 FY 2006 FY 2001 FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 FY 2006 FY 2007 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2008 FY 2009 TO TO TO TO TO TO TO TO TO TO TO TO TO											1				1										-
FY 2006 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits TO Complete () kits TOTAL FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3					1						<u> </u>	-			<u> </u>		1								
FY 2007 () kits FY 2008 () kits FY 2009 () kits TO Complete () kits TOTAL FY 2001 FY 2002 FY 2003 FY 2004 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 3 4 1						1		1				1		1		1									
FY 2009 () kits To Complete () kits To TOTAL																									1
To Complete () kits																									
TOTAL 79 1.7	FY 2009) () kits																							
FY 2001	To Com	plete () kit	S																						
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 1 3 4 1 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TOTAL			79	1.7	7																			
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 1 3 4 1 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Installatio	n Cabadul																							
8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1	IIIStaliatic	ii Scrieduit	-																						
		FY 2001		FY 2	2002			FY	2003			FY	2004				FY 2005				FY 2006		1		
Out 64 15 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 79		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 79	In	79																							
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL in 79	Out	64	15																						
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL in 79																									
In 79				_					1																
		1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	•									
					 	1	<u> </u>	 		1	 	 	<u> </u>	1		_		-							
	Out	<u> </u>	l	1	l		l	l			l	l	l				79	j							

Exhibit P-3a	Individual Modification

MODIFICATION TITLE: H-1 Mission Planning Module (MPM) and OFP Software Upgrade (OSIP 12-00)

MODELS OF SYSTEMS AFFECTED: H-1's TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION: The H-1 MPM is a unique software module application designed to operate in and interface with the Joint Mission Planning System (JMPS) Core software architecture. The MPM links the JMPS core to the aircraft operational flight program (OFP) software. This OSIP will also provide for periodic OFP software upgrades. It is taliended to meet the mission planning requirements of the H-1 weapon system platform and makes extensive use of generic Core processing with adjustments for unique H-1 requirements. The MPM will provide the capability for the H-1 operator to effectively and efficiently plan a mission in an automated environment, thereby reducing aircrave workload. The MPM will allow for the development and refinement of specific mission data to be produced in the JMPS and then transferred to the aircraft via a Mission Data Loader/Advanced Memory Unit device. This data will include target and waypoint, threats, GPS, ARC-210, EW System, weapons, and aircraft performance information. The MPM will also allow for helicopter performance calculations, taking into consideration terrain and threat information, which will enhance survivability. As a result, the H-1 MPM and OFP software upgrades will enable the operators to more effectively plan the assigned H-1 missions and coordinate with other Service and other Marine assets.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Modification of the existing MPM is necessary to reflect the new Windows NT architecture design. FY 98 and FY 99 H-1 prior year Mission Planning developments were funded under OSIP 3-93. JMPS 7.0 Core and MPM releases are scheduled as follows: Release #1: FY01; Release #2: FY02; Release #3: FY03; Release #4: FY05

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						1
Installation Equipment N/R		1.1		0.9		0.4		0.9		0.8												1
Engineering Change Orders																						
Data		*		*		*				0.1												
Training Equipment		*		*						*												1
Support Equipment																						1
ILS																						1
Other Support		0.6		0.1		0.1		0.1		0.1												1
Interim Contractor Support																						
Installation Cost																						1
Total Procurement		1.7		1.0		0.6		1.0		1.0												

Notes:

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 31 PAGE NO. 8 of 11

CLASSIFICATION: UNCLASSIFIED

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-3a		Individual Modification	
MODIFICATION TITLE:	AH-1W Aircraft and T700 Er	ngine Safety Corrections(OSIP 13-00)	
MODELS OF SYSTEMS AFFECTED:	AH-1W	TYPE MODIFICATION: Safety	
DESCRIPTION AND DESCRIPTION TO THE PROPERTY OF			

DESCRIPTION/JUSTIFICATION: This program is designed to address safety issues, such as mishap causal factors associated with maintaining an older type model series aircraft. The AH-1W helicopter is powered by two General Electric T700-GE-401 turboshaft engines which are controlled throughout the normal operating range by the Electrical Engine Control Unit (EECU) and the Hydro-Mechanical Unit (HMU). Since 1994, 86 total power loss incidents have occurred with the T700-GE-401; 58 ground flameouts, 7 ground roll-backs, 10 inflight shut-downs, and 11 inflight rollbacks. These inadvertent power loss incidents severely jeopardize aircrew safety. Incorporation of a Digital Electronic Control Unit (DECU) with auto-ignition system will reduce the risk of an uncommanded engine flameout and complete power loss. This change will replace the EECU with a DECU which will be carried forward into the AH-1Z. Additionally, a Dynamic Component Change (DCC) to incorporate new chip detectors on the 42 and 90 degree gear boxes are required to provide improved warning of impending failure, and new filler caps to prevent internal corrosion caused by water intrusion. The equipments introduced by this change will be carried forward into the AH-1Z. Tailboom Strake technology will be investigated to improve performance and improve tailboom fatigue. Tailboom Strakes have been proven to increase aircraft and aircrew safety by reducing tailboom fatigue and pilot workload while improving tail rotor authority and single engine performance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The DECU is a General Electric proprietary, non-developmental item used on the SH-60B and aircraft equipped with T700-GE-401C. Contract awarded 1st quarter of FY00. Installation of prototypes was accomplished in 2nd quarter of FY01 to complete verification. Organizational level installations commenced in the 2nd quarter of FY02. This modification will cover 193 AH-1W aircraft and nine AH-1W trainers which will

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	/ears	FY	2002	FY	2003	FY 2	2004	FY 2	2005	FY	2006	FY	2007	FY	2008	FY:	2009	To C	omplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC XXX DECU Install Kits *			113	0.1	62	0.1	18	*														
DCC XXX 42 & 90 Degree Gearbox *					50	0.9	82	2.2	45	0.7												
W1 Harness							193	1.6														
Tailboom Strakes					128	4.0																
Installation Kits N/R	5	0.2	2	0.2																		
Installation Equipment	10	0.2	300	5.3	82	2.3																
Installation Equipment N/R		0.8																				
Engineering Change Orders				0.1		0.1																
Data		0.2		0.1		0.5		*		*												
Training Equipment		0.2	8	0.5		0.3	1	0.1														
Support Equipment		0.2		0.5		0.6																
ILS		0.2		0.2		0.4		0.4		0.1												
Other Support		1.3		1.4		1.3		0.5		0.4												
Interim Contractor Support				0.1									<u> </u>									
Installation Cost																						
Total Procurement		3.4		8.6		10.4		4.8		1.2												

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Kits will be installed at the organizational level

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 31 PAGE NO. 9 of 11

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	AH-1 20MM Linkless Feed System(OSIP 02-03)		
MODELS OF SYSTEMS AFFECTED:	AH-1W/AH-1Z	TYPE MODIFICATION:	Survivability

DESCRIPTION/JUSTIFICATION: The U.S. Marine Corps (USMC) has an operational requirement for conventional weapons delivery. This initiative will replace the current feeder assembly with one that utilizes linkless, bulk 20mm ammunition common to all other DoN 20MM systems (FIA-18, F.14, CIWS). This will provide a significant increase in the reliability of this critical weapons system and enhance the survisibility of the flight crew. The ammo can/feeder assembly is the highest reliability degrader in the gun system. The implementation of this modification will enhance the warrightr's capability to place more rounds enter the representation of this modification will enhance the derivated compatible to the AH-1Z.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This initiative will be implemented by issuance of a new contract based on open competition between several manufacturers of linkless feed technology. Contract Award is scheduled for the 3rd quarter of FY03. Installation of prototypes will be accomplished in the 4th quarter of FY03 to complete verification. Installations will commence 1st quarter of FY06. This modification will cover 188 AH-1W aircraft and two AH-1W trainers.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY:	2003	FY 2	2004	FY 2	2005	FY:	2006	FY 2	2007	FY 2	2008	FY 2	2009	To C	omplete	Tota	al
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Accelerated Kits																						
Installation Kits N/R						0.6																
Installation Equipment																						
Linkless Feed Assembly					3	0.5																
Installation Equipment N/R																						
Engineering Change Orders						0.1																
Data						0.1																
Training Equipment					2	0.1																
Support Equipment						0.2																
ILS						0.8																
Other Support						0.3																
Interim Contractor Support																						
Installation Cost					5	0.2		·								·		·				
Total Procurement						2.8																

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50H

ODELS OF																								
	SYSTEMS	S AFFECT	ED:	AH-1W						-	MOD	IFICATIO	N TITLE:	AH-1 20	MM LINKLE	SS FEED	SYSTEM	(OSIP 02-	03)					
ISTALLATIO	ON INFOR	MATION:																						
ETHOD OF	IMPLEME	NTATION	l:	Contractor F	ield Mod Te	eams																		
DMINISTRA	ATIVE LEA	DTIME:				0	Months	_			PRODU	CTION L	EADTIME	: :			1	Months	<u>.</u>					
ONTRACT	DATES:	FY 2002:					_	FY 2003:	Jun-03				_		FY 2004:	Nov-03				_	FY 2005:	: Nov-04		
ELIVERY D	ATE:	FY 2002:					_	FY 2003:	Aug-03				=		FY 2004:	Dec-03				=	FY 2005:	: Dec-04		
													(\$ in Mil	lions)										
	Cost:		Pri	or Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY:	2007	FY	2008	FY:	2009	To C	Complete	TOTA	L
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001		ts																						
FY 2002					1		1					1		1	1								-	
FY 2003							5	0.2						<u> </u>				<u> </u>			-	-	-	1
FY 2004														1										1
FY 2005														<u> </u>				1			-	1	-	
FY 2007																					1			
FY 2008																								
FY 2009																								
To Comp		kits																						
TOTAL	,						5	0.2																
Installation	Schedule																							
ſ	FY 2001		FY	2002			FY 2	2003			FY	2004				FY	2005		FY 20	06		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In									5															
Out									5													J		
ŗ		EV.	2007		_	FY.	2000			EV.	2000		-	Го	т —		1							
}	1	FY 2	3	4	1	2	2008	4	1	FY:	3	4	-	Γο	T0	TAL								
ļ.,	7		3	4			3	4	1		3	4	•	nplete	1		1							
In Out	-				1	1	-				 	 		85 85		90 90	1							

Exhibit P-40, BUDGET ITEM JUSTIFICATION	N									DATE:			
											Februar	ry 2003	
APPROPRIATION/BUDGET ACTIVITY								P-1 ITEM NOME	NCLATURE				
Aircraft Procurement, Navy/APN-5 Aircraft Mod	difications									H-53 Mod:	ifications		
Program Element for Code B Items:								Other Related	l Program Elem	ents			
	Prior	ID									To		
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total	
QTY		A										0	
COST (In Millions)	336.8	A	20.7	27.9	9.7	10.0	23.0	21.7	16.0	16.3	65.5	547.4	

This line item funds modifications to the CH-53D/CH-53E/MH-53E aircraft. There are 44 MH-53E Helicopters; 165 CH-53E Helicopters; and 45 CH-53D Helicopters. The CH-53E is a seven blade main rotor and a four-blade canted tail rotor helicopter powered by three T64-GE-416A turbo shaft engines on the CH-53E while the CH-53D has six main rotor blades and two T64-GE-413 engines. The CH-53D/E aircraft are capable of both land and ship based transport of heavy equipment, supplies, and personnel. The MH-53E is similar to the CH-53E with additional capabilities for Airborne Mine Countermeasures (AMCM), Vertical On-Board Delivery (VOD), and Special Missions which require longer range and more precise navigation than that of the CH-53E. The overall goal of the modifications budgeted in FY04 is increased communication and navigation, night vision capability, and fleet operation and safety performance in the H-53 community.

The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
23-91	MH53E ENGINE ENHANCEMENT	45.0	0.1	0.1								45.2
11-92	AN/ARC-210 ECCM RADIO	20.5	1.0	0.7	0.3	0.4						23.0
12-92	CH-53E HELICOPTER NIGHT VISION SYSTEM	131.6		6.0	5.6	7.3	5.7	7.9	16.0	16.3	65.5	261.9
20-92	MH GLOBAL POSITIONING SYSTEM (GPS)	38.7	2.5	0.7	0.1							42.0
21-94	(ANVIS/HUD) AN/AVS-7	17.1	2.8	1.8	0.6							22.4
35-94	TRDS SHAFT DISCONNECT COUPLING MONITOR	24.1	0.5									24.5
20-97	ATTENUATING TROOP SEATS	19.1	4.2	6.1								29.4
	DERF (non add)		1.8									
6-98	AN/APR-39A (V) 2 UPGRADE	1.0	2.4									3.4
7-98	INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM	35.2	5.4	4.3								44.9
09-01	NACELLES	4.5	1.3	1.7	3.1	2.3	3.5					16.3
10-02	CH-53E AVIONICS COMM NAV SURVEILLANCE/TRAF M		0.4	0.6								1.0
18-03	COMMON DEFENSE WEAPON			5.9			13.8	13.8				33.4
		336.8	20.7	27.9	9.7	10.0	23.0	21.7	16.0	16.3	65.5	547.4
TOTAL RE	SERVE FUNDING INCLUDED IN TOTAL	2.1	0.0	0.0	6.6	6.8	6.9	7.1	7.2			

Note: Totals may not add due to rounding.

Note: * indicates amounts less then 50K
Note: CNSATM OSIP (10-02) profile includes funding from AN/APR-39A (V) 2 Upgrade and SLEP. Per N78/DCSAPW, funding was reprogrammed into CNSATM due to a higher Marine Corp priority in meeting CNSATM requirements.
Note: FY 2002 DERF funding augments OSIP 20-97

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	MH-53E ENGINE UPGRADE T64-GE-419 (OSIP 23-91)		
MODELS OF SYSTEMS AFFECTED:	CH-53E (1), MH-53E (44 - 32 Active, 12 Reserve), 45 Total	TYPE MODIFICATION: S	SAFETY

DESCRIPTION/JUSTIFICATION: The 64-GE-419 engine will produce 5,000 shaft horsepower at sea level, which will correct an OPEVAL deficiency concerning MH-53E one engine inoperative performance during mine countermeasure operations. Applicable ECP: 2626R1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The engine modification will be accomplished in two phases: the first phase forward fitted more durable, internal components (blades, shrouds, etc.) into 416 production engines beginning in FY99. These internally modified 416 engines are designated 416A. The components offer immediate rewards of longer engine life and reduced probability of engine failure. Early incorporation has saved a total of \$7M in down-stream retrofit costs. In addition, the components serve as the core of the longer range effort to upgrade power to 5,000 horsepower. Qualification was completed in FY90. The second phase will backfit the applicable upgraded external engine components (fuel controls and pump) plus associated airframe changes (engine/engine-bay cooling and torque/fire warning mods.) FY91 procured VAL/VER for MH-53E. FY93 procurred VAL/VER for CH-53E. The upgraded engine is designated the T64-GE-419.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$					Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Aircraft Kit -MH (32 Act, 12 Res)	44	7.5																				
Aircraft Kit - CH	1	0.2																				
Engine Oil Cooler Mod MH	90	3.5																				
Installation Kits N/R		19.5																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		2.5		*		*																
Training Equipment	4	0.8																				1
Support Equipment		0.8																				į
ILS		1.0		0.1		*																
Other Support		3.6		*																		1
Interim Contractor Support																						
Installation Cost	46	5.6																				
Total Procurement		45.0		0.1		0.1																

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. 41 MH INSTALLS (3 A/C IN STORAGE)

Exhibit P-3a																									
MODELS O	F SYSTEM	MS AFFEC	TED:	CH-53E (1), N	ин-53Е (44 - 32 Activ	/e, 12 Res	erve), 45 Tota	al	-	MOD	IFICATIO	N TITLE:	MH-53E I	ENGINE L	JPGRADE	T54-GE-	419 (OSII	P 23-91)						=
INSTALLATI	ON INFO	RMATION	:																						
METHOD O	F IMPLEN	MENTATIO	N:	Naval Aviation I	Depot (NAI	DEP) will modi	fy the engine	es. Airframe m	odification	s and engine	s will be pe	erformed co	oncurrent w	rith (SDLM) by NADE	P and Inter	service Fi	eld Mod Te	eams (FMT)					-
ADMINISTR	ATIVE LE	ADTIME:			3		Months				PRODU	CTION LE	ADTIME	:		33		Months	-						
CONTRACT	DATES:	FY 2002:						FY 2003:					F	Y 2004:					ı	FY 2005:					
DELIVERY [DATE:	FY 2002:						FY 2003:					ı	FY 2004:						FY 2005:					
										(\$ ii	n Millions))													_
	Cost:		Pric	or Years	F١	/ 2002	FY	2003	FY	2004	FY	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	TC	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	_
	& PY () k	iits	46	5.6																					
FY 2002	.,																								
FY 2003																									-
FY 2004 FY 2005	.,																						-		-
FY 2006	. ,																								-
FY 2007																									1
FY 2008																									1
FY 2009																									1
To Comp	olete () kit	s																							
TOTAL			46	5.6																					
Installation	1	e																							
	FY2001 & Prior	1	FY 2	2002	4	1	FY 2	3	4	1	FY 2	3	4	1	FY 2	2005	4	1	FY :	2006	4	1	FY 2	3	4
In	46	<u>'</u>		<u> </u>	-	'		<u> </u>	-	<u> </u>		J	-	'			4	<u>'</u>		<u> </u>	-			<u> </u>	+==
Out	46																								
				•																					
		F	Y 2008			FY	2009			То			1												
	1	2	3	4	1	2	3	4	Cor	mplete	ТО	TAL]												
In											4	46	1												
Out											4	46													

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AN/ARC-210 ECCM Radio (OSIP 11-92)

MODELS OF SYSTEMS AFFECTED: CH-53D (47) (Note 3), CH-53E (158)(Note 4), MH-53E (44), 249 Total TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed for ECCM interoperability with the Air Force, Army, and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and ECCM capabilities using the Air Force developed waveforms (UHF-AM HAVE QUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The ECCM parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVE QUICK and the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. Applicable ECPs: CH-53E: PNCLA-4, CH-53D: PNCLA-61, MH-53E: CHPT-006

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Procurement of the validation/verification kits occurred in August 1992. CH validation/verification efforts were procured in FY 1995. Procurement of validation/verification for the MH-53E took place in FY97. Due to the deactivation of RH-53D's, the incorporation of modifications in RH-53D aircraft was canceled.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY	2003	FY	2004	FY:	2005	FY 2	2006	FY	2007	FY 2	2008	FY 2	2009	To Co	mplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E A Kit (LBAD) Note 6	158	1.7																				
CH-53D A KIT (LBAD) Note 3	46	0.8																				
CH-53D Rev B Kit Note 5	45	0.4																				
MH-53E A KIT (LBAD)	21	0.4	10	0.1	3	0.1	8	0.1														
CH-53D ATABS VAL/VER KIT	1	*																				
CH-53D ATABS A KIT Note 7			43	0.1																		
CH-53D APX-72 A KIT			40	0.2																		
Installation Kits N/R		1.5																				
Installation Equipment																						
GFE ITEMS - CHE Note 4	4	0.5																				
Installation Equipment N/R		0.3																				
Engineering Change Orders																						
Data		1.9		0.1																		
Training Equipment Note 8	7	0.7	1	*																		1
Support Equipment																						
ILS		0.3		*																		
Other Support		4.8		0.1																		
Interim Contractor Support																						
Installation Cost	262	7.3	45	0.4	9	0.7	3	0.2	8	0.4												
Total Procurement		20.5		1.0		0.7		0.3		0.4											1 1	1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. 44 installs planned. 3 a/c struck since procurement
- 4. 4 radioes (GFE) procured by PMA-261 for Val/Ver. Balance procured by PMA-209
- 5. Includes 44 CHD Rev B installs
- 6. Only 150 Installations
- 7. 43 CH-53D ATABS A Kits are O level (no cost) installs
- 8. OFT install in FY2002 is no cost. Install was done in conjunction with installation of other Mods and incurred no cost by itself.

Ex	hibit P-3a																						
M	ODELS OF SYSTEMS AFFEC	TED:	CH-53D (4	47), CH-5	3E (158) ,	MH-53E	(44),249 To	otal		MODII	FICATIO	N TITLE:	AN/ARC-	210 ECC	M Radio	(OSIP 11-	92)	_					
IN	STALLATION INFORMATION:																						
M	ETHOD OF IMPLEMENTATION	N:	Concurren	t with Na	val Aviation	Depot (N	ADEP) star	ndard dep	ot level ma	intenance	(SDLM),	augment	ed by NA	DEP and	interserv	ice field n	nodification	on teams	(FMTs).				
ΑĽ	DMINISTRATIVE LEADTIME:	,		2		Months				PRODU	CTION L	EADTIMI	E:		13		Months	i	-				
CC	ONTRACT DATES: FY 2002:		No	v 01			F	FY 2003:	Nov	02	<u>.</u>	1	FY 2004:	No	v 03		<u>-</u>	1	FY 2005:	No	v 04		
DE	ELIVERY DATE: FY 2002:		De	c 02			F	FY 2003:	Dec	03		ı	FY 2004:	De	c 04		_	I	FY 2005:	De	c 05		
_										(\$ in Millio	ons)											
	Cost:	Prior	Years	FY	2002	FY	2003	FY	2004	FY 2	2005	FY 2	2006	FY	2007	FY 2	2008	FY 2	2009	To Co	mplete		TOTAL
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	FY 2001 & PY () kits	262	7.3	4	0.3																		
	FY 2002 () kits			1	0.1	9	0.7																
	FY 2003 () kits							3	0.2														
	FY 2004 () kits									8	0.4												
	FY 2005 () kits																						
	FY 2006 () kits																						
	FY 2007 () kits																						
	FY 2008 () kits																						
	FY 2009 () kits																						
	To Complete () kits																						
	TOTAL	262	7.3	5	0.3	9	0.7	3	0.2	8	0.4												

Note

Installation Schedule

	FY 2001		FY 2	2002			FY 2	2003			FY 2	004			FY 2	2005		FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	262	2	1	1	1	2	2	2	3	1	1	1		2	2	2	2			
Out	262	2	1	1	1	2	2	2	3	1	1	1		2	2	2	2			

		FY 2	2007			FY:	2008			FY 2	009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														287
Out														287

^{1.} Includes 7 Trainer Installations 2. FY2001 installations include 1 kit bought prior w/NGRE funds.

DELS OF SYSTEMS AFFE	CTED:	CH-53D A	APX-72						MODII	FICATIO	N TITLE:	AN/ARC-	210 ECC!	M Radio 4	(OSIP 11-	92)						
		011-3307	11 X-72					-	WODI	IOATIO	V 1111 E.E.	ANANO	210 2001	W Radio 1	(0011 111-	32)	-					
TALLATION INFORMATIO	N:																					
THOD OF IMPLEMENTATI	ON:	Concurre	nt with (NA	ADEP) (SDL	.M), augm	ented by N	ADEP and	d interservi	ce field me	odification	n teams (I	FMTs).										
MINISTRATIVE LEADTIME			1		Months				PRODU	CTION L	EADTIME	≣:		2		Months						
						-												•				
NTRACT DATES: FY 200	2:	No	v 01	-			FY 2003:				F	FY 2004:				•	-	FY 2005:				-
IVERY DATE: FY 200	2:	De	ec 02	_			FY 2003:				F	Y 2004:					1	Y 2005:				- ,
									,	\$ in Millic												
Cost:	Prio	r Years	FY	′2002	FY	2003	FY	2004		2005		2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	omplete	1	TOTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY () kits																						
FY 2002 (40) kits			40	*																		
FY 2003 () kits																						
Y 2004 () kits																						
Y 2005 () kits																						
Y 2006 () kits	-																				-	
Y 2007 () kits																						
Y 2008 () kits	-																				1	
FY 2009 () kits																					1	
To Complete () kits																					1	
TOTAL			40	•																	ı	
ote: (8) Hour Installation																				,		
FY 2001	FY 2	2002	4	4	FY 2	2003	4		FY 20		4			2005	4	_		2006	4			
& Prior 1	13	13	14	1		3	4	1		3	4	1	2	3	4	1	2	3	4			
Out	13	13	14																	t		
	•	•			•	•	•		•			•			•		•		•	•		
FY	2007			FY 2	2008			FY 2	009		Т	o										
1 2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
													4	10								
) Out													4	10								

Exhibit P-3a Individual Modification

MODIFICATION TITLE: CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS)(OSIP 12-92)

MODELS OF SYSTEMS AFFECTED: CH-53E (157) (Note 3) TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The Helicopter Night Vision System (HNVS) will provide an infrared night vision system for the CH-53E transport helicopters. The HNVS provides an improved night/all weather mission capability. This OSIP includes integration of the off the shelf APN-217(V)6 Doppler Navigation System and AAQ-16B/29/34 FLIR. Future configuration for CH-53E transport helicopter will be the AAQ-34 FLIR due to obsolescence issues for OEM with AAQ-29. Program is structured to replace AAQ-16 and AAQ-29 with AAQ-34 to establish a single configuration.

Applicable ECP: 0231-E001

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AAQ-16B/29 FLIR is a non-developmental Item (NDI) currently installed on a number of U.S. Army, Air Force, and Navy helicopters. DT-IIIA on the CH-53E/HNVS was completed in the third quarter FY 94. Extension of application for CH-53E was granted first quarter FY 95. The integration of the AAQ-34 FLIR will be accomplished in FY 2011.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	F١	/ 2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	omplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kits	138	9.3			14	0.3	5	0.1														
Installation Kits N/R		3.1																				
Installation Equipment																						
CH-53E installation equipment	159	16.8			28	3.2	10	1.2														
CH-53E TFU/SDC AAQ-16B/29	223	72.3																				
CH-53E TFU/SDC AAQ-34					3	1.7	5	2.9	11	6.7												
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.6						0.1														
Training Equipment	3	8.4																				
Support Equipment																						
ILS		1.0																				
Other Support		11.5				0.8		0.7		0.3												
Interim Contractor Support																						<u> </u>
Installation Cost (Note 4)	140	8.7					14	0.6	5	0.2												
Total Procurement		131.6				6.0		5.6		7.3												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Though the program was truncated (from 166 kits to 138) by N880 and HQMC in FY'97, 19 additional Kits were approved and funded per N78 and HQMC in October 2001.
- 4. 14 A-Kits installed in FY04 and 5 A-Kits installed in FY05 by Field Mod Teams. B-Kits (TFUs) installed at O-Level.

ibit P-3a																									
DELS OF SY	STEMS	S AFFECT	ED:	CH-53E (15	57) (See N	ote 3)					MOD	IFICATIO	N TITLE:	CH-53E	HELICOP	TER NIC	GHT VISI	ON SYST	EM (HN)	VS)(OSIP	12-92)				
TALLATION	INFOR	MATION:																							
THOD OF IM	IPLEME	ENTATION	l: <u>.</u>	14 A-Kits inst	alled in FY	04 and 5 A-K	its installe	d in FY05 by F	ield Mod T	eams. B-Kits	(TFUs) ins	talled at O-l	Level.												
/INISTRATI\	VE LEA	DTIME:	-			3	Months				PRODU	CTION LE	ADTIME	:	-		9	Months	_						
NTRACT DA	TES:	FY 2002:				-			FY 2003:		Jan-03		_		FY 2004:		Jan-04		-		FY 2005	:			_
IVERY DATI	E:	FY 2002:				<u>-</u>			FY 2003:		Oct-03		-		FY 2004:		Oct-04		-		FY 2005				_
Cost:			Prior	Years	FY	2002	F)	′ 2003	FY	2004	(\$ in Mill	ions) 2005	FY	2006	FY 2	2007	FY	2008	FY	2009	ТоО	Complete	TOTAL		7
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
FY 2001 & P	Y () kits	s	140	8.7																					1
Y 2002 () k	its]
Y 2003 () k	its								14	0.6															
Y 2004 () k	its										5	0.2													
Y 2005 () k																									
Y 2006 () k																									
Y 2007 () k																									
Y 2008 () k													1												-
FY 2009 () k Fo Complete													<u> </u>		-								-		4
TO Complete	() KIIS		140	8.7					14	0.6	5	0.2	 		+		1						+		-
stallation Sci	hedule	•															•				•	•			-
FY:	2001		FY 20	002			FY	2003			FY 2	:004			FY 2	2005			FY:	2006			FY:	2007	
&	Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	140									2	4	4	4	5											
ut 1	140									2	4	4	4	5											
_					ı						T		1												
	. 1		2008				2009			То															
	1	2	3	4	1	2	3	4	Cor	nplete	_	TAL	4												
1							-		-			59	4												
ut											1	59	J												

Exhibit P-3a	Individual Modification	1	
MODIFICATION TITLE:	MH Global Positioning System (NCS) (GPS) (OSIP 20-92)		
MODELS OF SYSTEMS AFFECTED:	MH-53E (32 Active, 12 Reserve) - 44 Total	TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: The Global Positioning System (GPS) is a space-based radio positioning navigation system designed to provide highly accurate navigation data (position, velocity, and time) to properly equipped users. The GPS integration into the MH-53E was to be originally accomplished via installation of the Navigation/Communication System (NCS). This system met all AMCM and GIG (DOD guidance for integration of GPS) requirements. Due to funding constraints, the NCS was cancelled in FY-99. As a result, the OSIP below was amended to reflect cancellation of the NCS system and reconfiguration of two aircraft previously outfitted with NCS, and show the procurement and installation of the MAGR 2000 GPS system. A two-phase approach removes the Omega Navigation System (ONS) and repositions the GPS-3A receiver to the right e-bay (Phase I). Phase II replaces the Phase I GFE with MAGR 2000/CDNU.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program completed Milestone IIIB in January 1992. Operational Testing (OT-IIIC) commenced in the third quarter FY95 with a recommendation of operationally suitable/operationally effective. In Phase I, the GPS-3A receiver was repositioned-no test required. The MAGR 2000 system (Phase II) in the MH-53E completed OT-IIID in October 2002. Fleet installations will be completed in FY03. This will be the Navy "lead the fleet" system implementation of GPS non-precision approach (NPA) capability.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior '	Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY 2	2009	To Co	omplete	-	Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
MH-53E NCS	4	5.2																				
MH-53E GPS Kit (ECP CH53-011)	71	2.2	13	0.3																		
Installation Kits N/R		2.3																				
Installation Equipment																						
GFE Reconfig																						
Installation Equipment N/R		0.4																				
Engineering Change Orders		0.2																				
Data		1.7		0.1																		
Training Equipment	4	10.5		0.1																		
Support Equipment		0.2																				
ILS		1.2																				
Other Support		11.8		1.1		0.1		0.1														
Interim Contractor Support																						
Installation Cost	42	3.0	30	1.0	13	0.6		*														
Total Procurement		38.7		2.5		0.7		0.1														

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Total Kit Qty includes 2 VAL/VER Kits and 2 Reconfigured Kits.

DELS OF SYSTEM																								
	IS AFFECT	ΓED:	MH-53E	(32 Activ	e, 12 Res	erve) -44	Total		_	MOD	IFICATIO	N TITLE:	MH Glo	bal Position	oning Sy	stem (NC	S) (GPS) (OSIP 2	0-92)					_
TALLATION INFOR	RMATION:																							
THOD OF IMPLEM	ENTATION	N: <u>ı</u>	Initial val kit	t install is a	turn key with	verification i	nstall by NAD	EP Cherry F	Point. Subse	quent install	s will be acc	omplished b	y Field Mod	l Teams or co	oncurrent w	rith Standard	I Depot Lev	el Maintenan	ce (SDLM)					
MINISTRATIVE LEA	ADTIME:	_		5		Months	_,			PRODU	CTION LI	EADTIME	:		5		Months	<u>.</u>						
NTRACT DATES:	FY 2002:			Fe	b-02	_,		FY 2003:				=		FY 2004:				_		FY 2005:				
LIVERY DATE:	FY 2002:				l-02									FY 2004:										
										(\$ in	Millions)													
Cost:		Prior \	Years	FY	2002	FY	2003	FY	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY	2008	FY:	2009	To C	omplete	Т	OTAL	
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & PY () ki	ts	42	3.0	30	1.0)																		
FY 2002 () kits						13	0.6																	
FY 2003 () kits									*															
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
FY 2008 () kits																								
FY 2009 () kits																								
To Complete () kits	;																							
To Complete () kits																								
TOTAL		42	3.0	•			•		*															
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T Installation Schedule	ear NCS K rainer Kits	; (40) Pha (it No Cos s - Installa	ase I Inst st Installa utions No	allations;	(40) Phas	se II Insta	llations; (2		* Installatio	. ,		tallations		FY	2005			FY:	2006			FY	2007	_
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T	ear NCS K rainer Kits	; (40) Pha (it No Cos	ase I Inst st Installa utions No	allations;	(40) Phas	se II Insta	•		*Installatio	. ,	Total Ins	tallations	1	FY 2	2005	4	1	FY:	2006	4	1	FY 2	2007	
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T Installation Schedule FY 2001	ear NCS K	; (40) Pha (it No Cos - Installa FY 20	ase I Inst at Installa ations No	allations; ation t Seperat	(40) Phasely Priced	se II Insta	llations; (2 2003) Trainer		FY 2	2004		1			4	1			4	1			
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T installation Schedule FY 2001 & Prior 1 42	ear NCS K Trainer Kits	; (40) Pha (it No Cos s - Installa FY 20 2	ase I Inst st Installa itions No 002 3	allations; ation t Seperat	(40) Phasely Priced	FY:	2003 3) Trainer		FY 2	2004		1			4	1			4	1			_
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T installation Schedule FY 2001 & Prior 42	ear NCS K Frainer Kits	; (40) Pha (it No Cos s - Installa FY 20 2	ase I Inst st Installa itions No 002 3 7	allations; ation t Seperat	(40) Phasely Priced	FY:	2003 3 3) Trainer		FY 2	2004		1			4	1			4	1			
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T installation Schedule FY 2001 & Prior 42	ear NCS K Frainer Kits	; (40) Pha iit No Cos :- Installa FY 20 2 7 7	ase I Inst st Installa itions No 002 3 7	allations; ation t Seperat	(40) Phaselely Priced	FY:	2003 3 3	Trainer		FY 2	2004		1			4	1			4	1			
TOTAL Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T Installation Schedule FY 2001 & Prior 1 42	ear NCS K Frainer Kits	; (40) Pha iit No Cos :- Installa FY 20 2 7 7	ase I Inst st Installa itions No 002 3 7	allations; ation t Seperat	(40) Phaselely Priced	FY 2 3 3 3	2003 3 3	Trainer	1	FY 2	2004		1			4	1			4	1			
Note 1: (3) NCS In Note 2: (1) Prior Y Note 3: FY96 (2) T nstallation Schedule FY 2001 & Prior	ear NCS K rainer Kits 1 7 7 FY 20	; (40) Pha it No Cos - Installa FY 20 2 7 7	ase I Installations Nov	allations; ation t Seperat	(40) Phasely Priced	FY: 2 3 3 3 2009	2003 3 3	Trainer	1	FY:	2004		1			4	1			4	1			

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AVIATOR NIGHT VISION IMAGING SYSTEM HEAD-UP DISPLAY (ANVIS/HUD) AN/AVS-7 (OSIP 21-94)

MODELS OF SYSTEMS AFFECTED: CH-53E 166 Aircraft & 4 Trainers TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: This modification incorporates the use of a Head-Up Display (HUD) with the AN/AVS-6 Night Vision Goggles (NVG). Helicopter crews perform missions at night using NVGs. Although NVGs provide aircrews with enhanced capability to operate during periods of darkness, they increase pilot workload due to critical flight instruments being placed outside of the visual scan. The ANVIS/HUD allows critical flight information to be displayed through the NVGs, thereby decreasing pilot workload and enhancing flight safety and mission effectiveness.

Applicable ECPs: CH-53E - PN47; CH-53D - PN61R1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The ANVIS/HUD is a nondevelopmental system currently in use on the USMC UH-IN and CH-46, and the US Army UH-60 and CH-47. This system is being procured under an Army Contract with validation installation and DT/OT completed in FY 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Pric	or Years	FY	2002	F١	2003	F	Y 2004	FY	2005	F`	Y 2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	Τc	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																				ŀ		
CH-53D Kit ECP PN61R1																						l
CH-53E Kit ECP PN47	135	2.0	18	0.3	13	0.3																
Installation Kits N/R		3.6																		ŀ		1
Installation Equipment																						
CH-53E Install Equip (incl 4 trainers	139	4.3	18	0.9	13	0.8																
Installation Equipment N/R																				1		1
Engineering Change Orders																						
Data		0.3																				
Training Equipment	4	0.5																		1		1
Support Equipment		0.2																				
ILS		0.4																				1
Other Support		3.7		1.0		0.3																
Interim Contractor Support																						
Installation Cost	112	2.1	22	0.7	18	0.5	18	0.6														1
Total Procurement		17.1		2.8		1.8		0.6		İ												ī

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

hibit P-3a																								
ODELS OF	SYSTEM	S AFFEC	TED:	CH-53E 166	& 4 Train	ners				<u>-</u>	МС	DDIFICATIO	N TITLE:	AVIATOR N	IGHT VIS	SION IMA	GING S	/STEM H	HEAD-UP	DISPLA	Y (ANVI	S/HUD) A	N/AVS-7	(OSIF
STALLATI	ON INFOR	RMATION:																						
ETHOD OF	F IMPLEM	ENTATIO	N:	Concurrent wit	th Standard	d Depot Level I	Maintenanc	ce (SDLM) augn	nented by	Interservice Fie	ld Mod Tea	ams												
MINISTRA	ATIVE LEA	ADTIME:			7		Months	<u>.</u>			PRODU	ICTION LEA	ADTIME:			8		Months	<u>i_</u>					
NTRACT	DATES:	FY 2002:		MA	Y 02	=		ı	FY 2003:		MA	Y 03		-	I	FY 2004:		MA	Y 04		_	FY 2005		
LIVERY D	DATE:	FY 2002:		JAI	N 03	_		I	FY 2003:		JAN	1 04		-	ı	FY 2004:		JAI	N 05		<u>-</u> -	FY 2005		
											(\$ in Milli	ons)												
	Cost:			or Years		Y 2002		Y 2003		Y 2004		2005	+	Y 2006	FY 2		FY 2		1	2009		omplete		TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	&PY() kits		112	2.1	22	0.7		***																
FY 2002					1		13	0.4	5				1											
FY 2003	.,				1		1		13	0.5			1											
FY 2004 FY 2005					1		1						1											
FY 2005 FY 2006																								
FY 2007					1		1						1									1		
FY 2008	.,																							
FY 2009																								
	olete () kits	;																						
TOTAL	•		112	2.1	22	0.7	18	0.5	18	0.6														
	n Schedule		112	2.1	22		10	0.5	10	0.0														
	FY 2001		FY	2002			FY:	2003			FY 2	2004			FY 20	05				2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ln -	112	5	5	5	7	5	5	5	3	5	5	5	3									-		
Out	112	5	5	5	7	5	5	5	3	5	5	5	3									J		
г									1								1							
}	4		2007	4	4		2008	1 4	4		2009	1 4	1 _	To	то:	TA1								
l	1	2	3	4	1	2	3	4	1	2	3	4	Co	mplete	1	TAL	ł							
In Out					!		-				-	-	1		1	70 70								
			l .			1	1	1																

Exhibit P-3a	Individual Modification
EXHIDIL F-3a	IIIUIVIUUAI IVIOUIIICAUOTI

MODIFICATION TITLE: TAIL ROTOR DRIVE SHAFT DISCONNECT COUPLING MONITOR & MAIN ROTOR SWASHPLATE BEARING MONITOR (OSIP 35-94)

MODELS OF SYSTEMS AFFECTED: CH-53E (165), MH-53E (43), (208) Total Aircraft & (6) Trainers TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The H-53E community has experienced several Class "A" mishaps due to failure of the Tail Rotor Drive Shaft disconnect coupling or main rotor swashplate duplex bearing. This program will install a vibration/temperature sensor on the disconnect coupling and swashplate to warn aircrews of duplex bearing degradation or impending failure.

Applicable ECPs: 2175R4/2666R4.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Coupling Monitor mod program commenced in FY92 with installation of 4 prototype systems for a one year demo. After successful completion of the demo four VAL/VER kits (2CH/2MH) were procurred in FY95 with installation scheduled in FY96/97. In June 96 a CH53E experienced a Class "A" mishap as a result of a main rotor swashplate bearing failure. VAL was completed Aug 98, and VER installations of the Coupling Monitor was deferred so that the system could be expanded and redesigned to incorporate monitoring of temperature and vibration in the main rotor swashplate assembly. In April 97 the contract for the Coupling Monitor was modified to include the additional functionality and to accelerate procurement and retrofit of the Bearing Monitor system. The Preliminary Design Review for the modified system was held in January 97 and the critical Design Review was held in April 97.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY	2003	FY:	2004	FY:	2005	FY:	2006	FY:	2007	FY:	2008	FY:	2009	To Co	omplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E/MH-53E Kits ECP 2175R4/2666	214	10.1																				
Installation Kits N/R		6.8																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders				0.1																		
Data		1.5		0.1																		
Training Equipment	6	0.8																				
Support Equipment		0.2																				
ILS		0.8		0.1																		
Other Support		0.8		0.2																		
Interim Contractor Support																						
Installation Cost	201	3.2																				
Total Procurement		24.1		0.5																		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. CH-53E-1 crash A/C, 2 FSC not installed, 9 AMARC = 155 CH-53E installs.
- 4. MH-53E = 1 crash A/C, 1 A/C stricken, 2 AMARC = 43 MH-53E installs funded.

nibit P-3a																							
DELS OF SYSTE	MS AFFEC	TED:	CH-53E (165), MH	-53E (43),	208 Tota	l Aircraft 8	k 6 Traine	rs	MODIF	FICATIO	N TITLE:	Tail Rot	or Drive S	Shaft Disc	connect C	oupling l	Monitor (OSIP 35	94)			
STALLATION INFO	RMATION:	:																					
THOD OF IMPLEM	MENTATIO	N: _	Turn-Key-C	ontractor F	Field Mod Te	eams																	
MINISTRATIVE LE	ADTIME:			6		Months				PRODUC	CTION L	EADTIMI	≣:		12		Months	-					
NTRACT DATES:	FY 2002:				_			FY 2003:					-	F	Y 2004:					_	FY 2005	<u> </u>	
LIVERY DATE:	FY 2002:				_																		
											\$ in Millio												
Cost:		Prior	Years	FY	2002	FY	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	800	FY:	2009	To Co	omplete	T	OTAL
-		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001&PY(201)	kits	201	3.2	2																			
FY 2002 () kits																							
FY 2003 () kits																							
FY 2004 () kits																							
FY 2005 () kits																							
FY 2006 () kits				1																			
FY 2007 () kits				1																			
FY 2008 () kits FY 2009 () kits				1																			
To Complete () kit	to.			ł																			
TOTAL	15	201	3.2																			1	
nstallation Schedul	e																						
FY 2001		FY 2	2002			FY:	2003			FY 2	2004			FY 2	2005				2006				
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
n 201				ļ																			
Out 201																							
																-							
	FY 2			<u> </u>		2008		<u> </u>		2009			0										
1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO		1							
n					-									20		4							
Out						•	1		1	1				20	11	1							

xhihit P-3a	Individual Modification

MODIFICATION TITLE: ATTENUATING TROOP SEATS (OSIP 20-97)

MODELS OF SYSTEMS AFFECTED: CH-53D (46), CH-53E (165), MH-53E (44)

TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Utility and Troop transport mission increasing in importance. Current troop/passenger seats are 1950 generation. Design does not provide impact protection of current rotorcraft seat designs. The impulsive type loading experienced during survivable mishaps produces amplified seat/floor anchor loads and potentially injurious occupant decelerations. Due to this operational deficiency, NDI crashworthy troop seat program extablished. NDI are lightweight off-the-shelf seats that provide protection by limiting an occupants inertial loading to survivable levels by attenuating impact forces to below survivable ranges and enables the occupant to rapidly egress a downed aircraft are being sought.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: NDI procedures utilized for the Procurement, Installation and Support of the seats for all 46 CH-53D Helicopters. Funding for the 46 seats and associated requirements were appropriated in 1997. Program consists of a one-time procurement with a turn-key installation approach. FY-98 through 05 provides for procurement, installation, and support of the CH-53E and MH-53E helicopters.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Years		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53D Kit	46	4.6																				
CH-53E Kit	50	4.1	58	4.3	46	3.4																
MH-53E Kit	2	0.4																				
Installation Kits N/R		1.3		*																		
Installation Equipment																						
Seat testing		0.7																				
Installation Equipment N/R																						
Engineering Change Orders		0.5																				
Data		0.4		0.1																		<u> </u>
Training Equipment		*																				<u> </u>
Support Equipment																						<u> </u>
ILS		0.3																				<u> </u>
Other Support		5.1		1.4		1.1																<u> </u>
Interim Contractor Support																						<u> </u>
Installation Cost	50	1.5	24	0.2	128	1.5																
Total Procurement		19.1		6.0		6.1																

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Purchased 24 CH-53E kits with FY02 DERF funding. APN-5 will pay for installs.

xhibit P-3a																									
ODELS OF	SYSTEM	IS AFFE	CTED:	CH-53D (46), CH-53	E (165), M	1H-53E (4	4)			MODI	FICATIO	N TITLE:	ATTENU	JATING T	ROOP S	SEATS (C	OSIP 20-9	97)					-	
NSTALLATIO	ON INFOR	RMATIO	N:																						
IETHOD OF	IMPLEM	ENTATI	ON:	Contractor Fie	eld Modific	ation Team	s and SDLM	ls																_	
DMINISTRA	ATIVE LEA	ADTIME:	:			1	Months				PRODU	CTION L	EADTIM	E:	8 (on initial b	ouy	Months	-						
ONTRACT	DATES:F	Y 2002:		Mar-	02		_	1	FY 2003:		No	v-02		_	F	Y 2004:					_	FY 2005:			
				Sep-				1	Y 2003:		Ma	y-03		_								FY 2005:			
												(\$ in Milli	ons)												
	Cost:		Pric	r Years	FY	2002	FY 2	003	FY 2	2004		2005		2006	FY 2	2007	FY 2	2008	FY 2	2009	To Co	omplete	TO	TAL	1
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
FY 2001	& PY () ki	ts	50	1.5	24		i i	0.3											<u> </u>						1
FY 2002		10	- 00	1.0		0.2	58	0.7																 	
FY 2003							46	0.6																	
FY 2004																									
FY 2005																									1
FY 2006																									1
FY 2007																									1
FY 2008																									1
FY 2009	() kits																								1
To Comp	lete () kits	3																							1
TOTAL			50	1.5	24	0.2	128	1.5																	ĺ
Installation	Schedule	•	F)	⁷ 2002		ı	FY 20	003			FY:	2004			FY 2	2005			FY:	2006			FY 2	2007	
ľ	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	50			12	12	22	22	22	22	22	18														
Out	50			12	12	22	22	22	22	22	18														
							1												ı	ı			-		
Г		FY	2008			FY 2	2009		Т	o															
	1	2	3	4	1	2	3	4		plete	TO	TAL													
J		_		·		 	_		23			02													
In												~-													
In Out											2	02													

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	AN/APR-39A (V) 2 UPGRADE (OSIP 6-98)		
MODELS OF SYSTEMS AFFECTED:	CH-53E/MH-53E (165) CH-53E, (44) MH-53E	TYPE MODIFICATION:	MISSION/MISSION ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The AN/APR-39A (V) 2 is a passive threat warning system primarily intended for use on helicopters and slow fixed-wing aircraft. Its purpose is to monitor the RF environment and detect, analyze, discriminate, identify and prioritize threats, unknown and friendly radar and missile guidance signals. Aircrew warning is provided by means of alphanumeric symbology on a 3-inch CRT cockpit display and an aural warning via the aircraft InterCommunication System (ICS). This change is being incorporated to improve aircraft survivability by providing for detection and display of surface-to-air missile and anti-aircraft radar threats. GFE "P" kits are to be procured under common OSIP 14-90, PMA-272. ECP: H53-008R1.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Retrofit installations were originally scheduled to commence in FY92 (OSIP 6-91), however, the APR-39A (V) 2 failed technical evaluation delaying modifications as originally planned. System successfully passed a Combined OPEVAL/TECHEVAL on UH-1N aircraft, during Oct 95 system was approved for retrofit on other platforms.

FINANCIAL PLAN: (TOA, \$ in Millions)

,	Prior `	Years	FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VAL/VER	2	0.1	2	0.1																		
CH-53E																						
MH-53E																						
MH-53E Reserve																						
Installation Kits N/R				*																		
Installation Equipment			2	0.4																		
Installation Equipment N/R				0.4																		
Engineering Change Orders																						
Data				0.2																		
Training Equipment		*																				
Support Equipment																						
ILS		0.1		*																		
Other Support		0.8		1.0																		
Interim Contractor Support																						
Installation Cost	2	0.1	2	0.2																		
Total Procurement		1.0		2.4																		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODELS OF	SYSTEM	IS AFFEC	TED:	CH-53E/	/MH-53E	165 CH-	53E, 44 N	MH-53E			MODI	FICATIO	N TITLE:	AN/APF	R-39A (V)	2 UPGR	ADE (OS	IP 6-98)								
INSTALLATIO	ON INFOR	RMATION:	:																							
METHOD OF	IMPLEM	ENTATIO	N:	Concurre	nt with Na	val Aviation	Depot (NA	DEP) Stan	dard Depot	Level Mai	ntenance ((SDLM), au	gmented b	y NADEP	and interse	ervice field	l mod team	s						•		
ADMINISTRA	ATIVE LEA	ADTIME:	,		8		Months	<u>s</u>			PRODU	CTION L	EADTIME	E:		4		Months								
CONTRACT	DATES:	FY 2002:		May 02		_		FY 2003:				_			FY 2004:							FY 2005:				_
DELIVERY D	ATE:	FY 2002:		Sept 02		_		FY 2003:				_			FY 2004:							FY 2005:				_
												(\$ in Millio	ons)													
	Cost:		Prior	Years	FY	2002	FY	2003	FY 2	2004	7	2005		2006	FY:	2007	FY 2	2008	FY	2009	To Co	mplete	TC	TAL	1	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
FY 2001 8	& PY () kit	ts	2	0.1																					Ĭ	
FY 2002 (2	0.2																				
FY 2003 (
FY 2004 (
FY 2005 (
FY 2006 (
FY 2007 (4	
FY 2008 (-	
FY 2009 (ļ	1										4	
To Compl	lete () kits	3	_					<u> </u>							!										4	
TOTAL			2	0.1	2	0.2																			J	
Installation		•																								_
	FY 2001		FY 2				FY 2					2004				2005				2006				2007		_
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4
In	2				2																					4
Out	2				2																					J
F									1 _		Г															
-		FY 20			_	FY 2		1 4	1	0		TA1														
	1	2	3	4	1	2	3	4	Com	plete		TAL														
In Out						-						4														
Out			<u> </u>					<u> </u>				4														

Entitle D.O.	Leading the state of the state
Exhibit P-3a	Individual Modification

MODIFICATION TITLE: HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 7-98)

MODELS OF SYSTEMS AFFECTED: CH-53E - (154); MH-53E - (44) TYPE MODIFICATION: SAFETY, READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: IMD is a helicopter monitoring and diagnostics system that provides continous on board monitoring and diagnostics of engine health, gearbox and drive train vibrations, oil debris, rotor track and balance, and crash protected Cockpit Voice and Flight Data recorder (CVFDR). CVFDR, an integral part of the IMD system, will perform the required function of a Flight Incident Recorder (FIR). An Early Operational Assessment (EOA) of a Commercial Off-the-Shelf system on two CH-53E's is scheduled for FY96-98. Lessons learned from this effort will be incorporated into the solicitation for the fleet wide IMD effort of which the H-53E is the lead platform.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The H-53E prototype effort in FY98-99 was a pilot program conducted at HMT-302 to validate a production representative system prior to Milestone III decision in FY03. An integration verification period for the remaining H-53E platforms has been followed by LRIP production.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	omplete	Т	Total .
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E A Kit	20	5.8	2	0.6																		
MH-53E A Kit																						
MH-53E Reserve Kit																						
Installation Kits N/R		3.1																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.4		0.1																		
Training Equipment		*																				
Support Equipment						*																
ILS		1.8		0.2		0.3																
Other Support		24.2		3.4		2.5																
Interim Contractor Support				0.2		0.2																
Installation Cost		_	10	1.0	12	1.3																
Total Procurement	i	35.2		5.4		4.3											İ					

Notes:

1. Totals may not add due to rounding

_																									
Exhibit P-3a																									
MODELS O	F SYSTEM	S AFFEC	TED:	CH-53E	- 154; M	H-53E - 44				•	MOI	DIFICATIO	N TITLE:	HELICOP ⁻	TER INTE	GRATED	MECHAN	ICAL DIAGI	NOSTIC S	SYSTEM (II	MDS) (OS	SIP 7-98)			
INSTALLAT	ION INFOR	MATION:																							
METHOD O	F IMPLEM	ENTATIO	N:	CONTRAC	TOR INST	ALLED																			
ADMINISTR	ATIVE LEA	DTIME:			1		Months				PRODU	CTION LE	ADTIME:	:		6	i	Months	<u>s</u>						
CONTRACT	DATES:	FY 2002:		DE	C 01		-	FY 2003:			_		FY 2004:				_		FY 2005:				-		
DELIVERY I	DATE:	FY 2002:		JU	IN 02		_	FY 2003:			=		FY 2004:				_		FY 2005:						
												(\$ in	Millions)												
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY	2007	F	/ 2008	FY	′ 2009	To C	Complete	TC	TAL	7
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
FY 2001	& PY () kit	S			10	1.0	10	1.1]
FY 2002	() kits						2	0.2																	
FY 2003	() kits																								
FY 2004	() kits																								
FY 2005																									
FY 2006																									
FY 2007	() kits																								
FY 2008																									_
FY 2009																									4
	olete () kits																								_
TOTAL					10	1.0	12	1.3																	1
	n Schedule																								
	FY 2001 & Prior	4	FY 2		4		FY 2		4	4	FY 2	2004			FY 2	2005	1		FY 2	2006		4	FY 20		т.
1	& Prior	1	2	3		1		3	4	1		3	4	1		3	4	1		3	4	1		3	4
In Out		2	2	2	4	4	4	4	4																+
Out				2	2	4	4	4	4													l.			
		FY 20	000			FY 2	2000			То	1		1												
	1	2	3	4	1	2	3	4		nplete	тс	OTAL													
In					-		3		001	прісте	1		1												
In Out												22 22	ł												
Out	l l											22	J												

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	Engine Nacelles (09-01)			
MODELS OF SYSTEMS AFFECTED:	CH/MH-53E		TYPE MODIFICATION:	MISSION/MISSION ENHANCEMENT

DESCRIPTION/JUSTIFICATION: This modification provides improvements to the engine nacelles which are intended to decrease the maintenance man-hours expended on nacelles repair and replacement. This modification will incorporate the forward and aft engine nacelles for the CH-53E and MH-53E.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contract awarded 2nd Qtr. FY 02. O-Level Validation/Verification is planned for Feb 03. All installations are O-Level.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	Years	FY:	2002	FY 2	2003	FY 2	2004	FY:	2005	FY 2	2006	FY:	2007	FY:	2008	FY:	2009	To Co	mplete	T	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
MH/CH-53E	46	3.1	2	0.1	24	1.3	42	2.8	31	2.1												
MH/CH-53E VAL/VER	2	0.1																				
Installation Kits N/R		0.8																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.2																		
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		0.5		1.0		0.4		0.3		0.2												
Interim Contractor Support																						
Installation Cost		•																				
Total Procurement		4.5		1.3		1.7		3.1		2.3												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a	Individual Modification			
MODIFICATION TITLE:	CH-53E Avionics Comm Nav Surveillance/Air Traffic Management (10-02)			
MODELS OF SYSTEMS AFFECTED:	CH-53E (154) & Trainers (5)	TYPE MODIFICATION:	Mission/Performance Enhancement	

DESCRIPTION/JUSTIFICATION: The CNS/ATM upgrade will modernize selected avionics systems to meet EUROCONTROL Minimum Aviation Performance Standards (MASPS). Systems include IFF(CXP), VOR/ILS (MMR) and RAHRS to include Attitude Deviation Indicator (ADI) and Course Direction Indicators (CDI). These current stand-alone systems will be integrated using existing software modules into the new bus architecture. These systems will be integrated via a 1553 bus structure controlled with existing CDNU's.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development based on existing bus structure and CDI technologies. Integration testing begins second quarter FY-03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	omplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53E Kit																						
Installation Kits N/R																						<u> </u>
Installation Equipment																						
GFE Items																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.1		0.2																
Training Equipment																						
Support Equipment																						
ILS						0.2																
Other Support				0.3		0.2																
Interim Contractor Support																						
Installation Cost *Note 3																						
Total Procurement				0.4		0.6																

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. The 7 installs in FY 06 include 3 Trainer installs; 2 Trainer installs in FY09

Exhibit P-3a	Individual Modification
MODIFICATION TITLE:	Common Defense Weapon System (OSIP 18-03)

DESCRIPTION/JUSTIFICATION: The Common Defensive Weapon System is a .50 Caliber Medium Pintle Head mounted weapon system which will provide enhanced defensive and suppressive fire for Marine Corps assault support aircraft. The CDWS consists of a M3M .50 Caliber machine gun, a medium pintle head mount with recoil dampening buffers, and an aircraft integration/mounting kit. This system will increase aircraft/aircrew surviveability during assault support missions by

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The M3M .50 Caliber Machine Gun is a COTS item ready for deployment on Marine Corps assault support aircraft (CH-46, CH-53, and UH-1). The MPH and aircraft integration kit's base designs are also COTS inhough kit modifications for each T/M/S aircraft must still be finalized. FYO'S efforts will all outfitting of the CH-46, CH-53, and UH-1 aircraft with CDWS. All non-recurring engineering efforts will add additional outfitting for all three aircraft platforms with no non-recurring engineering required. All installs are at the O-level.

TYPE MODIFICATION: MISSION/MISSION ENHANCEMENT

FINANCIAL PLAN: (TOA, \$ in Millions)

MODELS OF SYSTEMS AFFECTED:

	Prior	Years	FY	2002	FY 2	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CH-53D/E					36	1.2																
CH-46					24	0.8																
UH-1					18	0.6																
Installation Kits N/R					0	0.8																
Installation Equipment																						
CH-53D/E					40	0.6																
CH-46					26	0.4																
UH-1					20	0.3																
Installation Equipment N/R																						
Engineering Change Orders																						
Data						0.3																
Training Equipment																						
Support Equipment																						
ILS						0.5																
Other Support						0.3																
Interim Contractor Support																						
Installation Cost																						
Total Procurement						5.9																

Notes:

1. Totals may not add due to rounding

3. FY 03 install equipment qty includes 8 guns for spares

CH-53D/E, CH-46, UH1

increasing the effective range and rate of fire as compared to current systems.

Exhibit P-40, BUDGET ITEM JUSTIF	CATION								DATE:	Februa	ary 2003	
APPROPRIATION/BUDGET ACTIVITY	Y						P-1 ITEM NOME	NCLATURE				
Aircraft Procurement, Navy/APN-5 A	ircraft Modifications				H-60 Modification	ns						
Program Element for Code B Items:							Other Related Pro	ogram Elements				
	Prior	ID									To	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY												
COST	188.8		12.6	13.4	14.8	8.7	9.2		292.6			

This line item funds modifications to H-60 series aircraft. The H-60 series current inventory is comprised of: 40 HH-60H, 160 SH-60B, 74 SH-60F. The current retrofit plan is comprised of: 74 MH-60S and 36 MH-60R. The design service life of these weapon systems is 10,000 hours, the average service life remaining is as follows: SH-60B 4,946 hours, SH-60B are Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW). The SH-60F is an ASW, dipping sonar helicopter assigned to carrier airwings based aboard aircraft carriers (CV). The SH-60F primary mission is protection of the CV inner zone. The HH-60H is a Combat Search and Rescue (CSAR) and Special Warfare Support (SWS) helicopter assigned to carrier airwings aboard CVs and also in two reserve squadrons. SH-60B requirements are driven by the number of LAMPS MK III ships to be supported. The overall goal of the modifications budgeted is for the Gearbox Corrosion and Safety Related Systems Upgrade, Transmission Beam Fatique, and AMCM /Armed Helo (Correction of Deficiencies) for the MH-60S and the Armed Block I Upgrade for the MH-60R. The specific modifications budgeted and programmed are:

То

(TOA, \$ in Millions)

OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
48-92	FLIR/Hellfire (HH-60H)*											
40-32			0.4									0.4
07.05	DERF (non add)		0.4									0.4
27-95	NVG HUD (HH-60H)NVG Blue Glass*											
	DERF (non add)		2.2									2.2
08-96	T-700 Engine Improvements	20.3	1.4									21.8
10-96	Armed Helo/GAU-16/Ammo-Cans/Rubber Craft/M240/Mounts/LHEP/TCDL*	142.9										142.9
	DERF (non add)		7.2									7.2
17-00	Helicopter Integrated Mechanical Diagnostic System (IMDS)	12.2		10.4								22.6
25-00	Sonar Improvements	11.0	2.0									13.0
06-01	H-60 Ultra Low Maintenance Battery	2.6	0.1									2.6
17-02	Advance Helicopter Emergency Egress Lighting System (ADHEELS)		2.0									2.0
08-03	Gearbox Corrosion			0.1	2.5							2.6
09-03	H-60 Safety Related Systems Upgrade			10.7	12.0	7.2	4.6	5.1	5.1	5.3		50.0
16-03	Transmission Beam Fatigue			0.1	0.1	0.4	0.4	0.4	0.6	0.5		2.6
16-04	MH-60S AMCM/Armed Helo				3.8	5.0	3.6	4.1				16.4
XX-06	MH-60R Arned Block I Uprgrade						4.8	5.1	3.0	3.4		16.3
1	Total	188.8	5.5	21.2	18.4	12.6	13.4	14.8	8.7	9.2		292.6
Footnote: '	FY 2002 DERF funding augments OSIPs 48-92 (FLIR/Hellfire), 27-95 (NVG HUD)	and 10-96 (Armed He	lo).									
Note: Tota	s may not add due to rounding.											

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 33 PAGE NO. 1

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	T-700 Engine Upgrade (OSIP 08-96)			
MODELS OF SYSTEMS AFFECTED:	SH-60B, SH-60F, HH-60H	TYPE MODIFICATION:	Operational Enhancement	

DESCRIPTION/JUSTIFICATION: The Navy H-60 helicopter engine improvement modifications include the following safety and reliability improvements, auto ignition, which activates a time delay relay enabling ignition during an overspeed event and subsequent re-light, transient droop improvement (TD) which minimizes NR droop in hot/heavy gross weight environment and suitable contingency power making increased power available at high gross weight. Current inventory: 40 HH-60H, 160 SH-60B and 74 SHH-60F aircraft. Inventory includes - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60Bs designated NSH-60B, and 1 SH-60F aircraft designated YSH-60F. All the systems are being modified per ORD#s SOR 12-18, 015-05-84 and 085-05-86.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The planned engine improvements are already developed and in production in Army Blackhawk helicopters. The Navy conducted flight testing of the FY 1996 validation/verification period in order to verify the operation in the Naval Hawk application.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior \	Years	FY 2	2002	FY 2	2003	FY:	2004	FY:	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY2	2009	To Co	mplete	Tot	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						į
ECP 3930	281	3.1																				
Installation Kits N/R		1.3																				
Installation Equipment																						
DECUs	524	10.4	38	0.6																		
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.5																				į.
Training Equipment		0.5																				į
Support Equipment		0.2																				į
ILS		0.5																				
Other Support		1.6		0.1																		
Interim Contractor Support																						L
Installation Cost	161	2.3	120	0.7																		1
Total Procurement	805	20.3	38	1.4																		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																								
MODELS OF	SYSTEMS	AFFECTI	ED:	SH-60B	, SH-60F,	HH-60H				_	MODIF	FICATIO	N TITLE:	T-700	Engine Im	provemer	nts (OSIP	08-96)						
INSTALLATIO	ON INFORM	ATION:																						
METHOD OF	IMPLEMEN	TATION:	:	Co	ontractor Fi	eld Mod Te	am																	
ADMINISTRA	TIVE LEAD	-TIME:			1		Months	<u>.</u>			PRODU	JCTION I	EAD-TI	ME:		12		Months	<u> </u>					
CONTRACT	DATES:		FY 2002:					=	ı	FY 2003:					_ F	Y 2004:				_	FY 2005:			
DELIVERY D	ATE:		FY 2002:					_	ı	FY 2003:					_ F	Y 2004:				_	FY 2005:			
										((\$ in Milli	ons)												
	Cost:		Prior `	Years	FY:	2002	FY:	2003	FY	2004	FY	2005	FY 2	2006	FY:	2007	FY	2008	FY	2009	To Co	mplete	TOT	AL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 8	& PY (281)	kits	161	2.3	120	0.7																	igsquare	ļ
FY 2002 (,																							
FY 2003 (
FY 2004 (\longmapsto	
FY 2005 (,																						\vdash	
FY 2006 (₩	
FY 2007 (-				\longmapsto	
FY 2008 (. ,		1																				\longmapsto	
FY 2009 (1																				$\vdash \vdash$	
	ete () kits								1														$\vdash \vdash$	
TOTAL Installation	Schedule		161	2.3	120	0.7																		
	FY 2001		FY 2	:002			FY 2	2003			FY	2004			FY :	2005			FY	2006]		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	161			60	60																			
Out	161			60	60																			
					1										1		1							
		FY 2				FY 2			<u> </u>		2009			0										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete		TAL								
In Out									1							81								
Out			<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>						2	81	J							ļ
Note: Prod	curement of	3 kits and	d install wa	as delaye	d due to	software s	schedule	slip. Pro	ocureme	nt and in	stallatior	of final	2 kits will	l occur ir	n FY03 a	nd FY04	pending	schedu	le and b	udget.				ļ

Exhibit P-3a	Individual Modification	
MODIFICATION TITLE:	Armed Helo (OSIP 10-96)	
MODELS OF SYSTEMS AFFECTED:	SH-60B, HH-60H	TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: Procures weapons kits and incorporate provisions for a weapons capability into the SH-60B helicopter. Provisions include capability for supporting the Hellfire missile, crew served GAU-16A machine gun and FLIR nose mount. Modification required due to increasing ASUW role of the SH-60B in the littoral environment. This modification provides enhanced target detection, designation and defensive and survival capabilities. The current SH-60B inventory is 160 and includes 2 aircraft designated NSH-60B; 87 aircraft are being modified. The program also procures 64 Hellfire mission systems as ancillary equipment. ORD #ser 377-88-94 applies.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The weapons capability for the SH-60B and HH-60H will utilize all Non-Development Items (NDI) equipment's. A contract for the rapid deployment capability consisting of (8) aircraft was awarded in June 1996, with installations commencing in December 1996.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Provisions	87	40.0																				1
Rapid Deployment	8	4.8																				ĺ
Installation Equipment		21.8																				
Rapid Deployment	8	1.2																				ĺ
Hellfire Launcher/GAU-16A	52	12.2	301	7.2																		
Hellfire Kits																						1
FLIR																						ĺ
Installation Equipment N/R																						
Engineering Change Orders																						1
Data		1.6																				
Training Equipment		34.2																				<u> </u>
Support Equipment		3.0																				1
ILS		1.3																				
Other Support		16.6																				L
Interim Contractor Support																						<u> </u>
Installation Cost	87	6.2																				<u> </u>
Total Procurement	155	142.9	301	7.2	,			,				,	•							_		

Notes:

1. Totals may not add due to rounding

3. FY02 effort utilizes DERF funding (Non-Add).

Exhibit P-3a																									
MODELS OF	SYSTEMS	AFFECTE	ED:	SH-60B	, HH-60	Н				-	MODIF	ICATIO	N TITLE:	Armed	Helo (OS	SIP 10-96))								
INSTALLATIO	ON INFORM	IATION:																							
METHOD OF	IMPLEMEN	NTATION:		Con	tractor Fi	ield Mod 1	eam																		
ADMINISTRA	ATIVE LEAD	-TIME:					Months				PRODU	CTION	LEAD-TI	ME:		7		Months	_						
CONTRACT	DATES:		FY 2002:				_ F	Y 2003:				. F	FY 2004:				F	Y 2005:				_			
DELIVERY D	ATE:		FY 2002:				_ F	Y 2003:					FY 2004:				F	Y 2005:				-			
											(\$	in Millior	ns)												_
	Cost:		Prior `	Years	FY:	2002	FY 2	2003	FY	2004	FY 2	2005	FY:	2006	FY 2	2007	FY 2	2008	FY	2009	To Co	mplete	TO	ΓAL]
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	_
FY 2001	& PY (87) k	its	87	6.2]
FY 2002	() kits																								_
FY 2003	() kits]
FY 2004	() kits																								
FY 2005	() kits																								1
FY 2006	() kits																								1
FY 2007	() kits																								1
FY 2008	() kits																								1
FY 2009	() kits																								1
To Comp	lete () kits																								1
TOTAL			87	6.2																					1
Installation																									
	FY 2001		FY 20		_			2003	_			2004				2005				2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In O	87		+																						
Out	87																					l			
				1									_		ı		İ								
	<u> </u>	FY 20		_	4	1	2008	4			2009	4	1	0	то:	- 4.1									
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO										
In .			+													7									
Out													L		8	7									

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Helicopter Integrated Mechanical Diagnostic System (IMD) (OSIP 17-00)

MODELS OF SYSTEMS AFFECTED: SH-60B, HH-60H, SH-60F, MH-60
TYPE MODIFICATION: Operational Enhancement/ Safety

DESCRIPTION/JUSTIFICATION: Integrated Mechanical Diagnostic System (IMD) is a helicopter monitoring and diagnostic systems that provides continuous onboard monitoring and diagnostic of engine health, gearbox, drive train vibrations, oil debris, and rotor track and balance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Revised Acquisition Strategy from lease concept to procurement; approved by PEO (A) December 1999. IMD Development Testing (DT) started on the SH-60B at Rotary Wing January 2000. Limited LRIP decision April 2001, for hardware based on DT-IIA. Software DT-IIB completed November 2002. DT-IIC will commence March 2003. Current inventory: 40 HH-60H, 160 SH-60B and 74 SH-60F a/c. Inventory includes 1 HH-60H currently being rebuilt at Troy, AL, 2 SH-60B designated NSH-60B, and 1 additional SH-60F aircraft designated YSH-60F.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
MH-60 Install Kits																						
Legacy A/C Install Kits	3	1.2																				
MH-60 N/R Engineering						5.7																
Legacy A/C N/R Engineering		2.8				2.0																
Engineering Change Orders																						
Data		0.4				0.5																
Training Equipment						0.1																
Support Equipment		0.2				0.1																
ILS		1.0				0.4																
Other Support		6.0				1.6																
Interim Contractor Support																						
Installation Cost	3	0.5																				
Total Procurement	3	12.2				10.4				, and the second		, and the second						, and the second		, and the second		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

xhibit P-3a																							
MODELS OF SYSTEMS	AFFEC	TED:	SH-60B	, SH-60	F, HH-60	Н			_	MODIF	CATIO	N TITLE:	Integra	ited Mech	anical Dia	gnostic S	ystem (IN	MDS) (OS	SIP 17-00)			
NSTALLATION INFORM	MATION																						
METHOD OF IMPLEMEN	NTATIO	N:	Cor	ntractor Fi	eld Mod T	eam																	
DMINISTRATIVE LEAD	-TIME:		6			Months				PRODU	JCTION	LEAD-TI	ME:		2		Months						
ONTRACT DATES:	ı	FY 2002:		Ma	y-02		- I	FY 2003:						FY 2004:				- F	FY 2005:	:			
ELIVERY DATE:								FY 2003:						FY 2004:						: <u></u>			
				,	,		_				(\$ in Mill		-					•					
Cost:		Prior	Years	FY.	2002	FY	2003	FY	2004		2005	- 	2006	FY 3	2007	FY :	2008	FY	2009	To Co	mplete	TO	ΓΑΙ
		Qty	\$	Qty		Qty	\$	Qty		Qty	1	Qty		Qty	\$	Qty	\$	Qty		Qty	\$	Qty	\$
FY 2001 & PY (3) kit	s	3												π.,	_		_			1	Ť		
FY 2002 () kits																							
FY 2003 () kits																							
FY 2004 () kits																							
FY 2005 () kits																							
FY 2006 () kits																							
FY 2007 () kits																							
FY 2008 () kits																							
FY 2009 () kits																							
To Complete () kits																							
TOTAL		3	0.5																				
Installation Schedule																							
FY 2001		1	2002			1	2003				2004	1 .			2005				2006	1 .			
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In 0 Out 0		1	1	2		1														1			
Out 0			<u> </u>																	1			
	FY 2	207			F۷	2008		1	F۷	2009		Т	-o			1							
1	2	3	4	1	2	3	4	1	2	3	4	1	plete	TO:	TAL								
In .							-	- '-				0011	.p.010		3	1							
Out								l							3	1							
Out.		I	1			1	1	1		1	1	<u> </u>		<u> </u>		J							

Exhibit P-3a		Individual Modif	ication		
MODIFICATION TITLE:	Sonar Improvement (OSIP 25-00)				
MODELS OF SYSTEMS AFFECTED:	SH-60F		TYPE MODIFICATION:	Operational Enhancement/ Safety	_

DESCRIPTION/JUSTIFICATION: High failure rates of the AN/AQS-13F transmitter/battery assemblies call for an improvement in reliability. The purpose change to the AN/AQS-13F transducer is to: 1) Replace 65 transmitter assemblies with the improved IGBT version (as previously accomplished on 68 transmitters via LECP 12991), the 2) Add auto-disconnects to battery circuitry preventing battery drainage when power is removed. The battery auto-disconnect will be accomplished on 133 transducers. Current inventory: 74 SH-60F aircraft. Inventory includes 1 additional SH-60F aircraft designated YSH-60F. FY02 procurement of New High Strength Cables replaced the existing cables on 24 SH-60F aircraft. During dipping of the transducers for a sonar reading, tearing occurred in the previous cables, resulting in the loss of transducers.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior \	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	148	4.4	24	1.5																		
Install Kits N/R		*																				
Installation Equipment N/R		5.7																				
Engineering Change Orders		*																				
Data																						
Training Equipment																						
Support Equipment																						
ILS		0.2																				
Other Support		0.7		0.5																		
Interim Contractor Support																						
Installation Cost																						
Total Procurement	148	11.0	24	2.0								, and the second										

Notes:

1. Totals may not add due to rounding

3. Installation will be accomplished as an "O" Level Install

Exhibit P-3a		Individual Modification	
MODIFICATION TITLE:	H-60 Ultra Low Maintenance Battery (OSIP 06-01)		
MODELS OF SYSTEMS AFFECTED:	SH-60B, HH-60H, SH-60F		TYPE MODIFICATION: Operational Enhancement/ Safety

DESCRIPTION/JUSTIFICATION: Initiative replaces the current battery for the H-60 weapons system with ULM Battery. The ULM Battery reduces the cost of ownership, by reducing maintenance requirement, reduces weigh and reduces the risk of hazmat discharge. This equipment will be provided for the current inventory of 40 HH-60H, 160 SH-60B and 74 SH-60F aircraft. Inventory includes 1 HH-60H currently being rebuilt at Troy, AL, 2 additional SH-60Bs designated NSH-60B, and 1 additional SH-60F designated YSH-60F. Installations will be accomplished at "O" level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The ULM Battery is currently being used by the Coast Guard H-60 aircraft. This would provide the H-60 community with a common use item.

FINANCIAL PLAN: (TOA, \$ in Millions)

, , ,	Prior `	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Retrofit Kits	274	0.8																				
Installation Kits N/R**	1	1.4																				
Installation Equipment																						
ULM Battery	270	0.3																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support				0.1																		
Interim Contractor Support																						
Installation Cost																						
Total Procurement	275	2.6		0.1																		

Notes:

1. Totals may not add due to rounding

3. **One ULM A-kit procured as a test asset will be installed into an active aircraft.

2. Asterisk indicates amount less than \$50K

4. Installation will be accomplished at "O" Level

Exhibit P-3a	Individual Modification	
MODIFICATION TITLE:	Advance Helicopter Emergency Egress Lighting System ADHEELS (OSIP17-02)	
MODELS OF SYSTEMS AFFECTED:	SH-60B, SH-60F, HH-60H	TYPE MODIFICATION Operational Enhancement/ Safety

DESCRIPTION/JUSTIFICATION: The ADHEELS 2000/fl is a self-contained, automatically activated, emergency exit/escape light system. Some of the more impressive characteristics of the system include both automatic and manual activation, automatically activated by water immersion, G-sensitive switch, pitch/roll>110 degrees activation, system weight is <10lb per aircraft vs. 27lb for AFC-46 heels, five (5) year maintenance cycle (battery package replacement). Current retrofit plan reflects: (27) SH-60B, (75) SH-60F, and (39) HH-60H.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, \$ in Millions)

TINANCIAETEAN. (TOA, \$			F\/ 0	000	EV.	2000	EV.	2004	FV.	2005	EV.	2000	EV.	0007	EV.	2000	E)/6	2000	T. 0.		-	1-1
1		Prior Years FY 2002 Qty \$ Qty \$				2003		2004		2005		2006 \$		2007		2008		2009		mplete		tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits			141	0.5																		
Retrofit Kits																						
Installation Kits N/R				0.2																		
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data				0.2																		
Training Equipment				0.1																		
Support Equipment																						
ILS																						
Other Support				0.2																		
Interim Contractor Support																						
Installation Cost			141	0.8																		
Total Procurement				2.0																		

Notes:

1. Totals may not add due to rounding

xhibit P-3a																							
IODELS OF	SYSTEMS AF	FECTED:	SH-60E	3, SH-60I	F, HH-60)H			_	MODIFI	CATION	TITLE:	Adva	nce Helic	opter Em	ergency	Egress	Lighting S	System (C	OSIP 17-0	2)		
ISTALLATIO	ON INFORMAT	ΓΙΟΝ:																					
IETHOD OF	IMPLEMENTA	ATION:	Co	ntractor Fi	eld Mod T	eam																	
DMINISTR <i>I</i>	ATIVE LEAD-TI	IME:	2	2		Months	-			PRODU	ICTION I	LEAD-T	IME:		3		Months						
ONTRACT	DATES:	FY 2002	2:	Jun-02		_		F	FY 2003:				F	Y 2004:				F	Y 2005:				-
ELIVERY D	ATE:	FY 2002	2:	Jun-02		_		F	=Y 2003:				F	Y 2004:				F	Y 2005:				-
												(\$ in M	illions)										
	Cost:	Pric	r Years	FY 2	2002	FY:	2003	FY	2004	FY:	2005	FY 2	2006	FY:	2007	FY:	2008	FY:	2009	To Co	mplete	TO	TAL
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () kits																						
FY 2002 (` '			141	0.8	5																	
FY 2003 (_																					
FY 2004 (.,																						
FY 2005 (
FY 2006 (_																					
FY 2007 (-																			
FY 2008 (FY 2009 (.,							1												.			
To Compl	.,																						
TOTAL	iele () Kils			141	0.8											1							
Installation	Schedule FY 2001		v 2002			FV.	2002			FV /	2004			EV.	2005			EV	2006		1		
		1 2	Y 2002 3	4	1	2	2003 3	4	1	2	3	4	1	2	2005 3	4	1	2	2006	4			
In	Q 1 1101		69	72				T T				, ,				1							
Out			69	72																	1		
Out			00	12		<u> </u>		<u> </u>	1	1	l .			l .	l .	1			l .		1		
ļ	F	Y 2007		Ī	FY	2008		1	FY	2009		Т	ō			1							
		2 3	4	1	2	3	4	1	2	3	4		plete	TO	TAL								
In			1	1		<u> </u>		1	<u> </u>	 -					41	1							
						1	ļ	<u> </u>	L					_	• •	_							

Exhibit P-3a		Individual Modification	
MODIFICATION TITLE:	Gearbox Corrison (OSIP 08-03)		
MODELS OF SYSTEMS AFFECTED:	SH-60B, SH-60F, HH-60H		TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: Currently, the Main Gear Box is NRE developing sensor (a flight critical area) to check for corrosion once a year during a 365 day inspection. Approximately 3 out of 10 Main Gear Boxes are found to have excessive corrosion and need to be replaced. A monitoring sensor placed on the Main Gear Box forward bridge assembly would provide an early warning system when corrosion starts to become excessive. In reaction to this warning, additional preventative measures could be taken resulting in substantially less money and man-hours being spent repairing/replacing the Main Gear Box.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Sensor Lab Testing was completed October 2002, Sensor Field Validation planned March 2003, Sensor Acquisition March 2004, Sensor Installation March 2004 and Squadron Training October 2004.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Prior Years FY 2002			FY 2	2003	FY	2004	FY 2	2005	FY 2	2006	FY	2007	FY	2008	FY2	2009	To Co	mplete	То	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R						0.1		2.5														
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement						0.1		2.5														

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a Individual Modification MODIFICATION TITLE: H-60 Safety Related Systems Upgrade (OSIP 09-03) MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H TYPE MODIFICATIC Operational Enhancement DESCRIPTION/JUSTIFICATION: All H-60 Series Legacy Systems Safety Working Group (SSWG) number 1 item of concern, procure 1 per aircraft for 160 SH-60B, and 3 per 74 SH-60Fs and 40 HH-60Hs includes CSAR training requirements during Inter-Deployment Training Cycle (IDTC). Gunner's Belt used by crewmen when they are out of seats, i.e., as during unprepared landing in a Landing Zone (LZ) I during VERTREP operations. T700 Engine Safety Improvements fund ECPs to provide encapsulated (waterproof) engine wire harness. In addition troubleshoot T700 Engine problems unique to H-60 community and find fixes. Support proposed Joint ECP to provide an Engine High Speed Shaft Flex Coupling Replacement, a proven Lead The Fleet (LTF) concept that would remove the potential for catastrophic engine failures, by increasing margin of safety and readiness while reducing inspection and maintenance tasks. Wire Strike Protection for SH-60F, HH-60H already equipped, used during Inter Deployment Training Circle (IDTC) for CSAR training. Stabilator Control System Redesign solves problem of uncommanded runaway without caution alerts. H-60 Lighted RAST Probe provides a luminescent MODELS OF SYSTEMS AFFECTED: MH-60R, MH-60S TYPE MODIFICATIO Operational Enhancement DESCRIPTION/JUSTIFICATION: Cockpit Voice Recorder and Flight Data Recorder is to provide crash data to assist accident investigation personnel in gathering data to determine the cause of the accident. The Ground Proximity Warning System (GPWS) will be a software-based system that takes existing aircraft data and calculates a recovery profile to the above ground attitude of the aircraft. If the recovery profile (plus a suitable buffer) intercepts generate a warning to the pilot. Other means of generating a warning may also be used to ensure maximum detection with minimum nuisance cues. The retrofit plan for systems to be modified is as follows: MH-60S 74; MH-60R 36. DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Off the shelf items (minor mod required), off the shelf components for a 1-level fixed contract lead time is 6 months and production is 3 months to deliver all parts required. Joint Engineering Change Proposal with Army testing completed May 20, 2001. METHOD OF IMPLEMENTATION: The Gunner Belts, White Harness, High Speed Shaft, Lighted Rast Probe, Cockpit Voice Recorder and Flight Data Recorders are "O" Level Installs.

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	005	FY 2	2006	FY:	2007	FY	2008	FY	2009	To Cor	nplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits (SH-60B/SH-60F/HH-60H)																						
SH-60B Gunner Belt Kits					160	0.6																
SH-60F Gunner Belt Kits					222	0.8																
HH-60H Gunner Belt Kits					120	0.5																
White Harness (ALL TMS)					548	0.2																
H-60 High Speed Shaft (ALL TMS)					191	2.0	191	2.1	166	2.0												
H-60 Lighted RAST Probe (SH-60B/SH-60F/HH-60H)					202	0.1																
New White Harness (ALL TMS)							140	0.7														
SH-60F Wire Strike Protection Kits					74	2.2																
nstallation Kits (MH-60S, MH-60R)																						
MH-60S CVR/FDR									37	1.3												
MH-60R CVR/FDR									20	0.8												
nstallation Equipment (MH-60S/MH-60R) N/R								3.2														
nstallation Equipment (SH-60B/SH-60F/HH-6H) N/R						3.0		2.9														
nstallation Equipment (MH-60S/MH-60R)																						
MH-60S GPWS							37	0.3	30	0.8												
MH-60R GPWS							12	0.1	12	0.1												L
Engineering Change Orders						0.1		0.1														L
Data						0.5		0.1		0.2												
Training Equipment						0.1		0.1		0.3												L
Support Equipment																						
ILS								0.2		0.4												
Other Support						0.1		0.1		0.4							ļ					_
Interim Contractor Support																						<u> </u>
Installation Cost					38	0.5	85	2.1	42	1.0												L
Total Procurement					1,517	10.7	380	12.0	265	7.2												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- Gunner Belts, White Harness, New White Harness, High Speed Shaft, Lighted RAST Probe, Cockpit Voice Recorder and Flight Data Recorders are "O" Level Installs.
 H-60 Lighted RAST Probe will be procured for 160 SH-60Bs, 21 SH-60Fs and 21 HH-60Hs.
 New White Harness will be procured for 50 SH-60Bs, 51 SH-60Fs, and 39 HH-60Hs.

Exhibit P-3a																								
MODELS OF	SYSTEMS AFFECTE	ED:		SH-60	F (Wire	estrike	Protect	ion Kit)		МО	DIFIC	ATION	TITLE:	H-60 S	Safety R	elated S	Systems	Upgrade	e (OSIP	09-03)				
INSTALLATIO	ON INFORMATION:																							
METHOD OF	IMPLEMENTATION:			Con	tractor F	ield Mo	d Team																	
ADMINISTRA	ATIVE LEAD-TIME:			6			Months	-			PROD	DUCTIO	ON LEA	D-TIMI	E	3		Months	<u>i</u>					
CONTRACT	DATES:	FY	2002:					-	FY	2003:		Apr-03	3	_ FY	2004:				_ FY	2005:			<u>.</u>	
DELIVERY D	ATE:	FY	2002:					<u>-</u>	FY	2003:		Jul-03	3	_ FY	2004:				_ FY	2005:			•	
										(\$ in 1	Millions	s)												
	Cost:		Prior	Years	FY 2	2002	FY:	2003	FY:	2004	FY	2005	FY:	2006	FY:	2007	FY	2008	FY	2009	To Cor	mplete	TOT	ΓAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () kits																							
FY 2002	() kits																							
FY 2003	(74) kits						38	0.5	36	0.5														
FY 2004	() kits																							
FY 2005	() kits																							
FY 2006	() kits																							
FY 2007	() kits																							
FY 2008	() kits																							
FY 2009	() kits																							
To Comp	lete (166) kits																							
TOTAL							38	0.5	36	0.5														
Installation																						1		
	FY 2001	FY 20				_		2003		_		2004				2005		_		2006				
l (.	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In .									38				36											
Out									38				36											
										1														
		FY 20						2008				2009		1	0									
		1	2	3	4	1	2	3	4	1	2	3	4	Com	plete		TAL							
	In								ļ								'4							
	Out															7	'4	J						

Exhibit P-3a																								
MODELS OF	SYSTEMS /	AFFECTED:		MH-60	S GPV	vs				МО	DIFICA	ATION	TITLE:	H-60 S	Safety R	elated S	Systems	Upgrade	e (OSIF	09-03)			-	
INSTALLATIO	ON INFORM	ATION:																						
METHOD OF	IMPLEMEN	TATION:		Con	tractor F	ield Mod	i Team																-	
ADMINISTRA	TIVE LEAD	-TIME:		4			Months	-			PROD	UCTIC	ON LEA	D-TIMI	E	6		Months	<u>:</u>					
CONTRACT	DATES:	FY 2003	3:				F	Y 2004:		Jar	n-04		F	/ 2005:		Jan-05	i	FY	2006:	Ja	an-06		-	
DELIVERY D	ATE:	FY 2003	3:				F	Y 2004:		Jul	I-04		F	/ 2005:		Jul-05		FY	2006:		Jul-06		-	
											(\$ in N	/lillions)											
	Co	st:		Years		2002		2003	FY 2			2005		2006		2007		2008	-	2009	To Cor			TAL
EV 2001 S	& PY () kits		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2002 (
FY 2003 (,																							
FY 2004 ((37) kits								37	1.2														
FY 2005 ((30) kits										30	1.3												
FY 2006 (
FY 2007 (ļ			<u> </u>		
FY 2008 (1																			 	-	
FY 2009 (-																			 		
	ete (0) kits		+						0.7	4.0		4.0											—	
TOTAL									37	1.2	30	1.3											ш	
Installation	Schedule																							
	FY 2001	FY 2	2002				FY 2	2003			FY	2004			FY	2005			FY	2006		ı		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2		4			
In													37				30							
Out													37				30							
		FY 2007		,			2008				2009	,	Т	Го										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
In														7	_	74								
Out														7	7	74								

Exhi	bit P-3a																							
MOE	DELS OF SYSTEMS AFFI	ECTED:		MH-6	OR GPV	vs				МО	DIFICA	ATION	TITLE:	H-60 S	Safety R	elated S	Systems	Upgrade	e (OSIF	9 09-03)				
INST	TALLATION INFORMATIO	ON:																						
МЕТ	HOD OF IMPLEMENTAT	TON:		Con	tractor F	ield Mo	d Team																	
ADN	INISTRATIVE LEAD-TIM	E:		4			Months	-			PROD	UCTIO	ON LEA	D-TIMI	<u> </u>	6		Months	<u>s</u>					
CON	ITRACT DATES:	FY 2003:					_	FY	2004:		Jai	n-04	FY	2005:		Jan-05	5	FY	2006:	:	Jan-06		_	
DEL	IVERY DATE:	FY 2003:					-	FY	2004:		Ju	I-04	F	2005:		Jul-05		FY	2006:	:	Jul-06		_	
					_				_		(\$ in N	/lillions)		_									
	Cost:			Years		2002		2003		2004		2005		2006		2007		2008	-	2009	To Co	 	TO	1
ΙĿ			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	FY 2001 & PY () kits																		1				-	
	Y 2002 () kits																		1				 	
	FY 2003 () kits																		-				 	
	FY 2004 (12) kits								12	0.4	- 10												-	
	FY 2005 (12) kits										12	0.4											-	
	FY 2006 (12) kits																		1				-	
	FY 2007 () kits																						-	
	FY 2008 () kits																						-	
	Y 2009 () kits																						-	
	To Complete () kits																		-				_	
	TOTAL				<u> </u>				12	0.4	12	0.4							<u> </u>					
In	stallation Schedule																					1		
	FY 2001	FY 20		T _	Ι.			2003	-			2004				2005				2006		-		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In O													12 12				12 12							
-																	_					_		
		FY 2007				F١	2008			FY	2009		Т	0										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
In													1	2	:	36								
0	ut												1	2		36								

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Transmission Beam Fatigue (OSIP 16-03)

DESCRIPTION/JUSTIFICATION: Navy Helicopters are experiencing serious cracking and fracture problems with the SH-60 transmission beam. As a result, an aggressive inspection program is ongoing to detect cracks in the transmission beam. The use of sensors significantly reduces the costs of monitoring for cracking and determine the point of beam replacement. Transmission Beam Sensors will be applied to 160 SH-60B, 74 SH-60F and 40 HH-60H. An additional 16 sensors will be utilized on 1 (one) Training Simulator for crew training. The Prototype Sensors will be utilized on Test aircraft at Rotary Wing. Sensors will be installed on 159 SH-60B, 63 SH-60F and 38 HH-60H.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The current inspection procedure involves a teardown and visual inspection that removes the aircraft from service for a period of 2-4 weeks.

FINANCIAL PLAN: (TOA, \$ in Millions)

MODELS OF SYSTEMS AFFECTED:

INANCIAL PLAN. (TOA, \$ III WIIII			5)//		F) (a		E) (/	2001	- F) / c		E) ((2000	5)(4	2007	5)//	 5) (T 0			
		Years		2002	FY 2	2003		2004	FY 2			2006		2007	FY 2		2009		mplete		otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$	Qty	\$
RDT&E																					l
PROCUREMENT																					
Installation Kits (Prototype Sensors)					96	*															<u> </u>
Retrofit Kits (Sensors)									640	0.1											
Installation Kits N/R																					
Engineering Change Orders																					
Data																					
Training Equipment									16	*											
Support Equipment																					
ILS																					
Other Support						0.1		0.1		0.3											
Interim Contractor Support																					<u> </u>
Installation Cost									640	0.1											
Total Procurement					96	0.1		0.1	656	0.4											

Notes:

- 1. Totals may not add due to rounding
- 3. No installation Cost for Prototype Sensors.

SH-60B, SH-60F,HH-60H

5. FY08 and FY09 Data Cards will validate and record historical changes.

TYPE MODIFICATION: Operational Enhancement/ Safety

- 2. Asterisk indicates amount less than \$50K
- 4. Schedule reflects required 16 sensors per aircraft, plus 1 Trainer (Simulator is required for training).

xhibit P-3a																							
ODELS OF SYSTEM	IS AFFECTE	:D:	SH-60E	3, SH-60	F, HH-60	Н			<u>.</u>	MODIF	CATIO	N TITLE:	Transr	nission Be	eam Fatiç	jue (OSIF	16-03)						
ISTALLATION INFO	RMATION:																						
ETHOD OF IMPLEM	MENTATION:		Co	ntractor Fi	ield Mod T	eam																	
OMINISTRATIVE LE	AD-TIME:		3	3		Months				PRODU	ICTION	LEAD-TI	ME:		6		Months	<u>.</u>					
ONTRACT DATES:		FY 2003:						F	Y 2004:					F	Y 2005:		Dec-04		_	Y 2006:		Dec-0	5
ELIVERY DATE:		FY 2003:						F	Y 2004:					. F	Y 2005:		Jun-05		_	Y 2006:		Jun-06	6
											(\$ in Mi	llions)											
Cost:		Prior	Years	FY	2002	FY 2	2003	FY:	2004	FY	2005	FY	2006	FY 2	2007	FY	2008	FY	2009	To Co	mplete	TO	OTAL
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY () k	its																						
FY 2002 () kits																							
FY 2003 () kits																							
FY 2004 () kits																							
FY 2005 (640) kits										640	0.1												
FY 2006 (1,040) ki																							
FY 2007 (1,360) k																							
FY 2008 (1136) kit	S																						
FY 2009 () kits																							
To Complete () kit	S																						
TOTAL										640	0.1												
nstallation Schedul Note: Schedule refle		16 senso	rs per ai	rcraft, pl	us 1 Trai	ner.																	
FY 2001		FY 20	002			FY 2	2003			FY:	2004			FY 2	2005			FY	2006		1		
& Prio		2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In															18	22							
Out															18	22							
																					-		
	FY 20					2008				2009	1	1	ō										
1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
In Out												2:	21	20	61								
					1	1				i	1	2:			61								

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AMCM/Armed Helo (Correction of Deficiencies) (OSIP 16-04)

MODELS OF SYSTEMS AFFECTED: MH-60S TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: Based on Developmental and Operational testing, Fleet aircraft require modifications to correct identified deficiencies incorporated in production aircraft. These modifications include corrections to Common Cockpit Avionics, Auxiliary Fuel System, High Maintenance Battery, Search and Rescue Equipment, Exterior Lighting, Rotor System and Airframe and Night Vision Display. Current retrofit plan is as follows: 65 MH-60S. The Aux Tank A kit will be retrofit on 50 aircraft. The Bifilar B Kit will be retrofit as an "O" Level install on 51 aircraft. These capabilities will be incorporated as forward fit in all subsequent aircraft during production.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The MH-60S aircraft completed OPEVAL in Mar 2002; MS III was completed 12 Aug 2002. The validation of the Aux Tank A will be complete in the second quarter of FY 2005.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2002	FY 2003	FY	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY	2008	FY2	2009	To Co	mplete	Т	otal
	Qty	\$	Qty \$	Qty \$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
ECP 4000 Retrofit					5	0.5	24	2.2												
Bifilar					10	0.5	41	2.1												
NVD KIT							7	0.2												
Retrofit Kits																				
Installation Kits N/R						2.6														
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support						0.2		0.1												
Interim Contractor Support																				
Installation Cost							12	0.4												
Total Procurement						3.8		5.0												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a MODELS OF INSTALLATIO									MH-6	0S			ľ	MODIF	FICAT	ION T	ITLE:		Aux Ta	ank A k	Kit			
METHOD OF	IMPLEME	ENTA	OITA		C	Contra	actor	Field	Mod Te	am														
ADMINISTRA	ATIVE LEA	ND-T	IME:	2						l	Months	-			PRO	DUCT	ION L	.EAD-	T <u>IME:</u>		6	Months		
CONTRACT I	DATES:	FY 2	2004:				Dec-(03			FY	2005:	[Dec-04	1	FY	2006:		Dec-0	5	_ FY	2007:	De	c-06
DELIVERY D	ATE:	FY 2	2004:				May-	04			FY.	2005:		√lay-0	5	FY		Million		6	_ F\	/ 2007:	Ма	y-07
C	Cost:		Prior	Years	FY20	002	FY2	2003	FY	2004	FY:	2005	FY 2	2006	FY:	2007	FY	2008	FY	2009	To Co	mplete	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 8		ts																						
FY 2002 (
FY 2003 (,																		1					
FY 2004 (` '										5	0.3												
FY 2005 (` '																		-					
FY 2006 (` '																							
FY 2007 (` '																							
FY 2008 (FY 2009 (,																							
To Compl	,																				1			
TOTAL	ete () Kits)									5	0.3												
Installation	Schedule											0.0	<u>. </u>						!			l		
-																						_		
	FY 2001							2003	3		FY 2	2004				2005			FY:	2006				
_	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In																	5							
Out																	5					<u>l</u>		
		_														1								
	4		2007		1			2008		_	1	2009		4	0	ΤΟ:	T 4.1							
1	1	2	3	4		1		3	4	1	2	3	4		plete									
In Out					-	-					-		-	-	5	_	0							
Out														4	15	5	0	I						

xhibit P-3a																								
ODELS O	F SYSTEM	FECT	ΓED:					MH-6	08			ı	MODIF	FICAT	ION T	ITLE:		NVD I	_ightinç	g				
NSTALLAT	ION INFOR	RMAT	ION:																					
METHOD O	F IMPLEM	ENTA	ATION	۷:				Co	ontracto	or Field	Mod Tea	am												
DMINISTR	ATIVE LEA	AD-TI	IME:	1							Months	_			PRO	DUCT	ION L	EAD-1	IME:	:	2	Months	_	
CONTRACT	DATES:	FY 2	2004:			١	Nov-(03			_ FY	2005:	1	Nov-04	1	_ FY	2006:		Nov-0	5	_ F\	′ 2007:	No	v-06
ELIVERY	DATE:	FY 2	2004:				Dec-(03			_ FY	2005:	[Dec-04	1	_ FY				5	F)	′ 2007:	De	ec-06
	•				E) (0.0		=> /0				T						· ·	Million	_					
	Cost:			Years								2005		2006		2007	1	2008		2009		mplete		TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () ki	ts																						
FY 2002																								
FY 2003																								
FY 2004	() kits																							
FY 2005	(7) kits										7	0.1												
FY 2006	(14) kits																							
FY 2007	' (44) kits																							
FY 2008	3 () kits																							
FY 2009) () kits																							
To Com	plete () kits	3																						
TOTAL											7	0.1												
Installatio	n Schedule	;								I				1								•		
	FY 2001	_	_	2002		. 1		2003			1	2004		.	1	2005			1	2006	Ι.			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
<u>In</u>																3	4							
Out																3	4					ļ		
																	-							
	-	FY 20			1	FY 2				1	2009			ō										
_	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL	1							
In													5	8	6	65]							
Out				1									5	8	6	35	I							

Exhibit P-40, BUDGET ITEM JUSTIFICATION	N								DATE:			
										Februa	ry 2003	
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications							P-1 ITEM NO	OMENCLATU	RE	U-1 Sorios I	Modifications	
Program Element for Code B Items:										TI-1 OCTION	nounicutions	
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		А										
COST (In Millions)	97.5	А	2.4	5.2	3.5	3.5	7.4	7.4	6.0	7.5	26.2	166.8

There are 93 H-1N's in the UH configuration (71 active/20 reserve/2 test) and 27 H-1Ns in the HH configuration (4 Marine/23 Navy) for a total of 120. The UH-1N provides command and control and combat assault support under day/night and adverse weather conditions. Additional UH-1N missions include special operations support, controls/coordination/guidance of supporting fire and aeromedical evacuation. The overall goal of the modifications budgeted in FY2004/2005 is to eliminate safety hazards, remedy obsolescence and maintain significant mission capability until the planned retirement date. The HH configured aircraft provide local civilian and military search and rescue support.

OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
31-92 18-98	UH-1 NTIS H-1N Safety Upgrades	76.9 20.6	1.5 0.9	5.0 0.2	3.3 0.2	3.3 0.2	7.2 0.2	7.2 0.2	5.8 0.2	7.3 0.2	26.2	143.9 22.9
	Total	97.5	2.4	5.2	3.5	3.5	7.4	7.4	6.0	7.5	26.2	166.8
RESERVE F	UNDING INCLUDED IN TOTAL	5.2										

Asterisk indicates amounts less than \$50K Totals may not add due to rounding

CLASSIFICATION: UNCLASSIFIED ITEM NO. 34 PAGE NO. 1 of 5 DD Form 2454, JUN 86

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	UH-1N NAVIGATIONAL THERMAL IMAGING SYSTM (NTIS) (OSIP 31-92)		
MODELS OF SYSTEMS AFFECTED:	93 UH-1Ns, 7 reclamation a/c, 2 trainers, 3 lab units	TYPE MODIFICATION: 5	SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states that the UH-1N requires a Navigational Thermal Imaging System (NTIS) to provide the U.S. Marine Corps with a night/day warfighting capability in the NOE/smoke/dust/haze environment. This capability reduces the safety risk by allowing the aircrew to see and avoid flight obstructions and locate targets that might not be visible with the naked eye or night vision goggles. The AN/AAQ-22A is a low cost, stabilized system which provides the required capability in the form of high quality real time imagery displayed into the UH-1N aircraft cockpit. The NTIS System is comprised of 5 components; Turret FLIR Unit (TFU), Central Electronics Unit (CEU), Hand Control Unit (HCU), Thermal Image Recorder (TIR), and the Video Display Unit (VDU). The NTIS is installed only in the UH-1N aircraft by AFC 278. The system also includes a Laser Range Finder (LRF) to determine the range to landmarks, targets, and tactical points of interest. Beginning FY97, the NTIS was upgraded from 1st generation to 3rd generation Forward Looking Infrared (FLIR) technology. This COTS modification to the current NTIS configuration will consist of a 3-5 micron focal plane array detector, an eye safe LRF and new optics incorporating three fields of view. The commercial name of this modification is Star SAFIRE LRF. Additionally, the NTIS will be upgraded with a new Thermal Imaging Recorder (TIR) with mount and a Flat Panel Display replacement for the VDU due to a fire hazard. Additional modifications to the NTIS are also being investigated in order to add a COTS Laser Designator (Brite Star) capability. A laser designator capability is an ORD requirement. A contract has been signed to provide a minimum of 1 and a maximum of 125 upgrades to the AN/AAQ-22A and AN/AAQ-22C systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NTIS is a commercial off-the-shelf (COTS) item. MIL-STD-810C testing is complete. DT-III testing was completed in the fourth quarter 1994 and FOT&E was completed in the second quarter FY 1996. Additional testing occurred during fourth quarter 1998 for the NTIS upgrade. The completion of COTS post Milestone III testing of Laser Designator (Brite Star) occurred in 3rd and 4th quarter of FY01 and has continued into FY02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY:	2007	FY 2	2008	FY:	2009	To Co	omplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC 278 ECP EJH HO 30006	105	2.6																				
AFC-334 TIR ECP#H-1-CP9-97R-1	105	0.1																				
AFC-TBD (Brite Star)					7	*			5	*												
Installation Kits N/R		3.3		0.1																		
Installation Equipment																						
NTIS System (GFE)	84	29.7																				
TIR (GFE)	107	1.0																				
NTIS Upgrade	78	26.9	3	1.0	4	1.4	4	2.8														
Flat Panel Display	90	0.8																				
BRITE STAR	3	2.0			5	3.3			5	2.9												
Installation Equipment N/R		0.6						*														
Engineering Change Orders								*														
Data		0.5																				
Training Equipment	2	0.6																				
Support Equipment		1.1							2	*												
ILS		0.3		0.1		0.1		0.1		0.1												
Other Support		4.4		0.3		0.2		0.4		0.3												
Interim Contractor Support																						
Installation Cost	107	3.1			7	*			5	*												
Total Procurement		76.9		1.5		5.0		3.3		3.3												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

S OF SYSTEMS AFFECTED: <u>u</u> .ATION INFORMATION:											MODIFI	CATION TIT						SYSTEM			
ATION INFORMATION.				-								o,	<u>(</u>		017111) (0	0. 0. 02	<u>'</u>				_
O OF IMPLEMENTATION:	NSTALLED	O AT INT	TER-SEF	RVICES	DLM AND	BY CON	TRACTO	R FIELI	D MOD TE	M											_
STRATIVE LEADTIME:				3	Months				PRODUC	CTION LE	EADTIME	≣: <u> </u>		ţ	Month	ns					
ACT DATES: F	FY 2002: <u>1</u>	N/A		_		FY 2003	B Dec-02				FY 2004	Dec-03				FY 2005	Dec-0	4			
RY DATE: F	FY 2002: <u>1</u>	N/A		_		FY 2003	3 May-03				FY 2004	May-04				FY 200	5 May-0	5		_	
ons)																					
Cost: P	Prior Years		FY 2002	2	FY 2003		FY 2004	ŀ	FY 2005		FY 2006	FY	2007	FY 2	2008	FY 2009	9	To Comp	lete	TOTAL	
C	Qty \$	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY (107) kits	107	3.1																			\perp
FY 2002 () kits																					
FY 2003 (7) kits					7																
FY 2004 () kits																					
FY 2005 (5) kits									5	*											
FY 2006 (11) kits																					
FY 2007 (11) kits																					
FY 2008 (11) kits																					
FY 2009 (11) kits																					
To Complete (50) kits																					
TOTAL	107	3.1			7	*			5	*											

Exhibit P-3a	ı	Individual Modification		
MODIFICATION TITLE:	H-1N SAFETY UPGRADES (18-98)			
MODELS OF SYSTEMS AFFECTED:	HH-1N/UH-1N		TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 requires that the following safety shortfalls be corrected. The HH/UH-1N helicopter fleet was designed in the 1960s, introduced in the 1970s and are projected to remain in the Department of Navy inventory until FY-2020. This program is designed to address safety issues, such as mishap casual factors associated with maintaining an older type model series aircraft. This safety upgrade program replaces the Tail Drive System (TDS). The existing TDS is subject to failure resulting in complete loss of tail rotor thrust. Since 1991, 44 malfunctions or failure have been reported on current TDS components. In the same time period, two Class A mishaps occurred as result of catastrophic failure of the hanger bearing assemblies in flight. These mishaps resulted two deaths, major and minor injuries in seven others and the destruction of two aircraft. NAWC Lakehurst projects one Class A mishap to occur every two to three years at the current flight usage rates in a safety assessment report published on 3 June 1996. A COTS/NDI Improved Torque Indicator System will be added to provide a digital torque display to the aircrew to improve low power margin situational awareness. Tailboom strake technology will be investigated to improve performance and reduce tailboom fatigue. Additionally, the overspeed Aural Alert Unit (AAU) will be modified. A modification to the CH-8500 Vibration Analysis Support Equipment (VASE) will also be needed. A COTS replacement Rotor Brake Quill (RBQ) assembly, component failures due to an obsolete design pose a significant risk to all aircrew, and Low Maintenance Battery (LMB) will be incorporated into all HH/UH-1N aircraft. Included in this OSIP is the requirement to correct the safety deficiencies of the Defensive Armament System (DAS); M240, GAU-16 and GAU-17 machine guns.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: These upgrades are proprietary, non-developmental items used in other BHTI produced military and FAA certified commercial helicopters. Prototype installation and flight testing completed in March 1999 at NAS Patuxent River, MD. Post flight analysis and report completed in September 1999.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY	2007	FY:	2008	FY 2	2009	To Co	mplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP # BHTI-1710 (TDS)	131	6.3																				
ECP# HI-CP-24-99 Rotor Brake Quill	136	1.6																				
ECP# HI-CP-19-98 Aural Alert Unit	103	Note #3																				
Smart Torque Indicator	275	1.0																				
ECP# NAWCWD 97GG023R2 M240	210	0.1																				
ECP# 98-002 GAU-17 Gun Ctrl Unit	79	0.3																				
ECP#98-0014 IDAS Mounts	110	0.7																				
Installation Kits N/R		1.3																				
Aural Alert Unit Install. Equipment	103	0.6																				
Engineering Change Orders		*																				
Data		0.7																				
Training Equipment	4	1.3																				
Support Equipment	100	0.4																				
ILS		1.0																				
Other Support		4.6		0.9		0.2		0.2		0.2												
Interim Contractor Support																						
Installation Cost	213	0.7	16	_																		
Total Procurement		20.6		0.9		0.2		0.2		0.2												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Aural Alert Unit Installation Kit Cost included in Aural Alert Unit Installation Equipment cost.

Exhibit P-3	a																								
MODELS	OF SYS	STEM	S AFFEC	TED:	HH-1N/U	H-1N					_	MODII	FICATIO	N TITLE:	H-1N SA	FETY UPO	RADES	(OSIP 18-9	98)						
INICTALLA	TION	INICOD	MATION	_																					
INSTALLA	(TION I	INFOR	MATION	:																					
METHOD	OF IMF	PLEME	ENTATIO	N:	CONTRAC	TOR FIELD	TEAM AN	D ORGAN	IC MOD TE	AM															
		<i></i>	D.T.I. I.E.		_								o - 1011		_										
ADMINIST	RATIV	/E LEA	DIIME:		2			Months	<u>-</u>			PRODU	CHONL	.EAD I IM	E:		6		Months	-					
CONTRAC	CT DAT	TES:	FY 2002:			_	FY 2003:			_	FY 2004:			_		FY 2005:									
		_																							
DELIVER	Y DATE	E:	FY 2002:			-	FY 2003:			- '	FY 2004:			-		FY 2005:			•						
													(:	\$ in Millio	ns)										
	Co	ost:		Prio	r Years	FY 2	2002	FY	2003	FY:	2004	FY:	2005	FY	2006	FY 2	2007	FY:	2008	FY	2009	To Co	omplete	TOTAL	
				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 20		_) kits	213	0.7	16	0.1																		
FY 20																								1	
FY 20																								1	
FY 20																									
FY 20																									
FY 20	07 () ki	its																							
FY 20																									
FY 20	_ ,	its																							
TOTA	_			213	0.7	16	0.1																		
Inctallat	ion Sob	hodulo	rofloate 1	02 44116	and 126	rne																			
IIIStaliat	ION SCI	riedule	renects i	US AAUS	anu 120	D3.																			
	FY 2	2001		FY 2	2002			FY	2003			FY:	2004			FY 200	5			FY 200	6				
	& P	Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In		213	16																						
Out	2	213	16																						
			FY 2	2007		I	EV	2008		1	EV	2009		-	Го	ī		1							
	<u> </u>	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	TO ⁻	TAL								
In	1	1			<u> </u>	i 	_	Ī	1			Ĭ		5011		2		1							
Out	1																29	1							
		-		•	•	-	•	•		-	•	•	•	-				-							

Exhibit P-40, BUDGET ITEM JUSTIFICATION										DATE:		
											Februar	y 2003
APPROPRIATION/BUDGET ACTIVITY	•						P-1 ITEM NOMEN	ICLATURE		•		
Aircraft Procurement, Navy/APN-5 Aircraft Moo	lifications								H-3 Series	Modifications		
Program Element for Code B Items:							Other Related	Program Eleme	ents			
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		A										
COST (In Millions)	8.3	A	4.0								19.1	31.4

This line item funds modifications to an inventory of 52 H-3 aircraft. The H-3 is a twin-engine, single main rotor helicopter utilized in anti-submarine warfare, utility, and search and rescue missions. The overall goal of the modifications budgeted is to replace obsolete systems and equipment, to enhance mission performance, and to ensure supportability until the planned retirement of the H-3 aircraft in 2010. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Total</u>
36-95	EXECUTIVE TRANSPORT CONVERSION	7.7									6.4	14.1
03-99	COMM/NAV UPGRADE	0.6	4.0								12.7	17.4
	Total	8.3	4.0								19.1	31.4
Funding f	for Reserve Forces	1.8										1.8
	Is may not add due to rounding. es funding less than 0.051 Millions											

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 35 PAGE NO. 1

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

xhibit P-3a					Individual Modification																		
ODIFICATION TITLE:					UH-3H EXECUTIVE TRANSPORT CONVERSION (OSIP 36-95)																		
Aircraft Procurement, Navy/AF	N-5 Aircra	ft Modific	ations																				
ODELS OF SYSTEMS AFFEC	TED:			UH-3H									_	TYPE M	ODIFICA	TION:		Reliabili	ty				
DESCRIPTION/JUSTIFICAT systems and components are CINCLANTFLT Executive Tr. March 1995 via ORD # 404-6 DEVELOPMENT STATUS/M minimize cost and the amount	e becoming ansport mi 38-95. 1AJOR DE	g increasi ssions. T VELOPM	ngly unsu he modifi ENT MILI	upportablication in	e, due to cludes ac	obsoleso	cence and an Auxili	d uniquer ary Powe	ness com er Unit, Er	pared to	the rest of ntal Contr	f the H-3 ol Systen	Fleet. Th	is progra erior pass	m will cor senger ac	nvert two comodat	(2) logist ions. OP	ically sup NAV con	portable veyed thi	UH-3H air s requiren	craft for nent in	cal	
NANCIAL PLAN: (TOA, \$ in M					ı				1						T				1				
	Prior Years		FY 2002			2003		2004		2005		2006	FY 2007		FY 2008		FY 2009			To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E											.												
PROCUREMENT												ļ					<u> </u>	ļ					
Installation Kits											.												
AFC Kit												ļ					<u> </u>	ļ					
Installation Kits N/R ***	2	6.7																					
Installation Equipment												ļ											
Equip												ļ											
Installation Equipment N/R												ļ					<u> </u>	ļ					
Engineering Change Orders												ļ											
Data												ļ											
Training Equipment												ļ					<u> </u>	ļ					
Support Equipment												ļ											
ILS		0.1										ļ											
		0.9										ļ											
Other Support						1	I	1	I	1	I		I		I	1	I			1			
Other Support Interim Contractor Support																				1			

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- **3. 1 Prototype= GFE (Auxiliary Power Unit, Environmental Control System, interior passenger accomodations) and structures.
- *** 4. 2nd Prototype= GFE (Auxiliary Power Unit, Environmental Control System, interior passenger accomodations) and structures.

Exhibit P-3a

CLASSIFICATION: UNCLASSIFIED

								lı	ndividual I	Modificati	on											
MODIFICATION TITLE:					COMMUNI	CATION/	NAVIGATI	ON UPGE	ADE (OS	IP 03-99)											
Aircraft Procurement, Navy/APN	I-5 Aircra	ft Modific	ations																			
MODELS OF SYSTEMS AFFECTE	ED:			UH-3H										TYPE MO	ODIFICAT	ION:		Reliability	/			
DESCRIPTION/JUSTIFICATION FY2010. The following communavigational systems will be repw/Rad/Alt card, ML-1 Remote On DEVELOPMENT STATUS/MAJNOTE: OSIP 03-99, XX-02, and	nicational : laced: A2 Compass T	systems v 4G-39 At Transmitte	will be rep titude Hea er (RCT) v	laced: AN ading Refe with AMAD	/ARC-159 rence Sys (part of A	UHF rad stem (AHF VA24G-5	io with AN RS) with th 1), AN/AS	//ARC-210 ne A/A240 iN-123C T on and Inte	UHF/VHF 5-51 AHRS ACNAV co	radio, KY S, 1080Y V omputer w rough FY0	'-58 Secur 'ertical Gy rith CNDU	re Voice C ro & AN/A C-12284/	omm with RN-182 D A compute	AN/ARC-2 oppler Rac er.	10 UHF/VI dar & AN/A	HF radio, A	AN/APX-7 adar Altim	2 IFF with (eter & AN/	CXP Comm ASN-163 M	on Transpo AGR GPS	onder. The with the Af	following N/ASN-178
FINANCIAL PLAN: (TOA, \$ in Milli			T						T		T		1						•			
	Prior \			2002	FY 2			2004		2005		2006		2007		2008		2009		mplete		otal
-	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E							1	ļ		-					 				.			ļ
PROCUREMENT															1						<u> </u>	
Installation Kits			8	0.1			1	ļ		-					 				ļ			ļ
							1	ļ		-					 				ļ			ļ
AFC Kit																						
Installation Kits N/R ***		0.1		0.4			 	1		1												
Installation Kits N/R *** Installation Equipment		0.1													-							
Installation Kits N/R *** Installation Equipment COMM/NAV Equip		0.1	8	2.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R		0.1	8																			
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders		0.1	8	2.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data		0.1	8	2.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data Training Equipment		0.1	8	2.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data Training Equipment Support Equipment		0.1	8	0.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data Training Equipment Support Equipment ILS			8	2.2 0.3 0.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data Training Equipment Support Equipment ILS Other Support		0.1	8	0.2																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data Training Equipment Support Equipment ILS			8	2.2 0.3 0.2 0.1 0.7																		
Installation Kits N/R *** Installation Equipment COMM/NAV Equip Installation Equipment N/R Engineering Change Orders Data Training Equipment Support Equipment ILS Other Support			8	2.2 0.3 0.2																		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- ***3. FY99, FY00 and FY01 are for AHRS only.

xhibit P-3a								•	•																	
MODELS OF	SYSTEMS	AFFECTI	ED:		UH-3H					-	MOD	IFICATIO	N TITLE:		COMM.N	NAV UPGI	RADE (O	SIP 03-9	9)							
NSTALLATI	ON INFORM	MATION:			DEPOT	LEVEL				=																
NETHOD OF	F IMPLEME	NTATION:	: .		CONTRAC	CT FIELD N	MODIFICAT	ION TEAM																		
ADMINISTRA	ATIVE LEA	OTIME:				1	Months	_			PRODU	CTION LE	ADTIME	:		(6	Months	<u>.</u>							
CONTRACT	DATES:	FY 2002			Nov	v-01	_	FY 2003			N/A				FY 2004			N/A		_	FY 2005	i		N/A		
DELIVERY [DATE:	FY 2002			Арі	r-02	=	FY 2003			N/A		:		FY 2004			N	I/A	_	FY 2005	i		N/A		
													(\$ ir	Millions)	ı											
	Cost:		Prior	Years	FY:	2002	FY:	2002	FY	2003	FY	2004	FY:	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	omplete	TC	TAL
	Qty \$ Qty \$ Qty \$ 1 & PY () kits 8 0.2 2 () kits 8 0.2 3 () kits 9 () kits 0.2 4 () kits 0.2 0.2 6 () kits 0.2 0.2 6 () kits 0.2 0.2 8 () kits 0.2 0.2 9 () kits 0.2 0.2 8 () kits 0.2 0.2 9 () kits 0.2 0.2 1 () kits 0.2 0.2 2 () kits 0.2 0.2 3 () kits 0.2 0.2 4 () kits 0.2 0.2 5 () kits 0.2 0.2 6 () kits 0.2 0.2 7 () kits 0.2 0.2 8 () kits 0.2 0.2 9 () kits 0.2 0.2 1 () kits 0.2 0.2 1 () kits 0.2 0.2 2 () kits 0.2 0.2 </td <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td> <td>Qty</td> <td>\$</td>							Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY () kits	3																								
FY 2002	() kits						8	0.2																		
FY 2003	() kits																									
FY 2004	() kits																									
FY 2005	() kits				1					1																
FY 2006	() kits						1																			
FY 2007	() kits																									
FY 2008	() kits																									
FY 2009	() kits																									
To Comp	olete () kits								<u> </u>	'																
TOTAL							8	0.2																		
Installation	n Schedule																									
	FY 1999		FY 2	002			FY	2003			FY	2004			FY	2005			FY	2006			FY	2005		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
In				4	4																					
Out				4	4																					
																										•
		FY 20	07			FY	2008			FY:	2009		Т	ō			1									
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TC	TAL										
										Ī				6		14	1									
In	l l																									

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CLASSIFICATION: UNCLASSIFIED

BUD	GET ITEM	1 JUSTIFI	CATION SH	EET			DATE:					
		P-40							Februai	ry 2003		
APPROPRIATION/BUDGET ACTIVITY					P-1 ITEM NO	MENCLATURE						
Aircraft Procurement, N	lavy/APN-5 A	ircraft Modific	cations					EP-3 Series I	Modifications			
Program Element for Code B Items:					Other Related	Program Elen	nents					
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QUANTITY												
COST												
(In Millions)	244.1		120.2	57.7	31.5	118.8	135.7	62.5	62.5	63.6	448.2	1344.9

This line item funds modifications to the EP-3E aircraft. The EP-3E is a land based, long range aircraft, with electronic intercept devices for detection and tracking of enemy RADARs and radios. The overall goal of the modifications budgeted in FY2004 is to improve operational capability and aircrew productivity by expanding the ESM frequency coverage, applying state-of-the-art signal exploitation/processing/display techniques, expanding direction finding (DF) frequency coverage, and expanding special signal processing capability.

Research and Development is funded with National Security Agency (NSA) Defense Cryptologic Program (DCP) funds and ASDC4I Defense Airborne Reconnaissance Program (DARP). DCP R&D funds the integration of Non-Developmental Items (NDI) under the Navy's Airborne Sensor System Improvement line. The NSA line for Navy Airborne Sensor System improvement funds sensor improvements with application to the EP-3E. DCP R&D PE: 0305885G refers. DARP R&D funds are responsible for the development and acquisition of EP-3E sensors, data links, data relays, and ground stations to achieve and maintain interoperability with Defense-wide airborne reconnaissance assets. Active PAA inventory is 12 with a BAA inventory of 4 for a total of 16 aircraft at the end of OSIP 29-00. Funds budgeted in FY2004 are to continue Joint Sigint Avionics Family (JSAF) Modification Program (JMOD). The EP-3E has an average service life of 29.5 years and the first EP-3E will reach end of service in 2004.

		(TOA, \$ in Millio	ins)							То	
OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Total</u>
14-95	EP-3 Sensor Improvement	142.8										142.8
26-00	Quick Reaction Capability	21.9										21.9
29-00	P-3C to EP-3E Conversion Program	74.9	84.6			80.0	80.0					319.4
	DERF (non-add)		75.0									
11-01	JASA Modification (JMOD)	4.6	35.7	57.7	31.5	38.8	55.7	62.5	62.5	63.6	448.2	860.7
	DERF (non-add)		15.0									
TOTAL		244.1	120.2	57.7	31.5	118.8	135.7	62.5	62.5	63.6	448.2	1344.9

FY-02 Defense Emergency Response Funds (DERF) in the amount of \$75.0 augments OSIP 29-00 and \$15.0 augments OSIP 11-01. FY-03 Defense Emergency Response Funds (DERF) in the amount of \$22.5 augments OSIP 11-01.

Note: Totals may not add due to rounding.

CLASSIFICATION:

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE: EP-3 Sensor System Improvement (OS	SIP 14-95)
MODELS OF SYSTEM AFFECTED: EP-3E	TYPE MODIFICATION Operational Improvement / Modernization
DESCRIPTION/JUSTIFICATION:	
Electronic Warfare Support Measures (ESM) weapon system art signal exploitation/processing/display technique, and expa Digital Information Exchange System-B (TADIXS-B), Tactical System (TRIXS), USN/USAF Advisory Support Network (ASN installation in the first production aircraft ensured integrated s commands. The Congressional plus-up for LESPA included N	directly to Operational Requirement (OR) #057-095-87 and CAF-002-88. The program procures, integrates, and installs new capabilities into the EP-3 in to cope with the increasingly complex and dense threat environment. The required improvements in productivity will be achieved by applying state-of-the-anding Program signal processing capability. Tactical communications connectivity improvements include TRE Related Applications (TRAP), Tactical I Digital Information Link-A and -J (TADIL-A and -J), Tactical Information Broadcast Services (TIBS), Tactical Reconnaissance Information Exchange N) Intelnet, DAMA-capable radios, and an upgrade to the OE-320 antenna suite. Integration and testing in the EP-3 Integrated Test Facility (ITF) prior to system functional integrity. The SSIP provides the hardware and software essential for timely situational analysis and reporting to the fleet tactical NRE for qualifying LESPA parachutes in both EP-3E and Special Project Aircraft. Procurement of parachutes was limited to the EP-3E requirement in this exploitation/processing is achieved by Low Probability of Intercept/Specific Emitter Identification (LPI/SEI).
This OSIP addresses 12 aircraft. Nine of the eleven EP-3E a	aircraft service lives end during FY2004 through FY2008.
	w (ASR) dated 3 May 2001, program changes necessitated the replacement of JMOD MOD1 with Baseline Update. Baseline Update incorporates Joint compliant infrastructure with SSIP and Quick Response Capability (QRC) functional improvements into the Trial Kit Installation (TKI) aircraft.
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTO	DNES:
PEO(A) approved the production procurement of the first two COMOPTEVFOR operational assessment completed in the JMOD Baseline Update is required in order to ensure the JM	leted in the 2nd quarter of FY95. Based on this testing and an early operational assessment by COMOPTEVFOR, we system installs of SSIP Phase I. Production approval was based on follow-on qualification testing at the ITF and a 2 2nd quarter FY96. DT was completed end of 3rd quarter FY90. OT was completed early 4th quarter FY90. The MOD TKI aircraft has the same baseline configuration and capabilities as SSIP and QRC fleet assets. Fleet f the LPI/SEI contract was awarded 2nd quarter FY92, and the final portion will be awarded 4th quarter.
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Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLIEP-3 Sensor System Improvement (OSIP 14-95)	
MODELS OF SYSTEM AFFECTED: EP-3E	TYPE MODIFICATION Operational Improvement / Modernization

	Prior	Years	FY 2	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete		TOTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
SSIP	12	5.4																				
LESPA	12	1.1																				
OE-320	12	.3																				
TADIL-J (Link-16)	12	1.2																				
LPI/SEI	12	1.0																				
Baseline Update	1	3.1																				
Installation Kits N/R		10.3																				
Installation Equipment																						
Storyteller	10	11.1																				
Story Book	10	14.3																				
Story Classic	10	11.7																				
IP-1159 Replacement	10	5.0																				
LESPA	12	1.0																				
OE-320 Upgrade	12	1.8																				
TADIL-J (Link-16)	12	4.0																				
HBP Equipment		1.2																				
LPI/SEI	12	8.7																				
Baseline Update	1	6.7																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data		8.3																				
Training Equipment		2.5																				
Support Equipment		1.5																			Ш	
ILS		7.8																			Ш	
Testing		1.0																			Ш	
Other Support		19.3																			Ш	
Interim Contractor Support																	<u> </u>		<u> </u>			
Installation Cost	43	14.4																			igsqcup	
TOTAL PROCUREMENT	150	142.8											I									ł

Notes:

- 1. Totals do not add due to rounding
- 2. Asterick indicates amount less than 51K

Exhibit P-3a																									
		10 4555	OTES	ED 05							וסטיבים	ATION	TIT' -	ED 2 2					CID 4.	05)					
MODELS OF				EP-3E							IODIFIC	ATION					•	ment (O							
INSTALLATI							_							LESPA	/OE-320)/TADIL	-J(Link	-16)/Bas	eline U	pdate					
METHOD O	F IMPLEM	ENTATI	ON:	Comm	ercial C	contrac	tor Dep	oot Insta	llation																
ADMINISTR	ATIVE LE	ADTIME			8		Months	<u>.</u>			PROD	UCTION	l LEAD	TIME:		6		Months	_						
CONTRACT	DATES:		FY	2002:		FY.	2003:		_ F	Y 2004:		FY	2005:		=										
DELIVERY [DATE:		FY	2002:		FΥ	2003:		F	Y 2004:		FY	2005:												
						-							Million		-										
	Cost:		Prior	Years	FY 2	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TC	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY (37)	kits	* 37	2.1																					
FY 2002	() kits																								
FY 2003	() kits																								
FY 2004	() kits																								
FY 2005	() kits																								
FY 2006	() kits																								
FY 2007	() kits																								
FY 2008	,																								
FY 2009									-		-														
	lete () kits																								
TOTAL			* 37	2.1																					
* Includes) "O" Le	vei insta	alis; 1 Ba	iseline (эраате;	6 OE-32	us and t	weive (12	z) TADIL	-J (LINK-1	ib) insta	liations.											
	FY 2001		FY 2	002			FY	2003			FY 2	2004			FY 2	2005			FY 2	006					
İ	& PRIOR	1	2	3	4 *	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	37																								
Out	36				1																				
						_			I								1					-			
İ	1	FY 200	07 3	4	1	FY 2	2008	4	1	FY 2	2009	4	4	Γο nplete	то	TAL		* JMOI) Basa	line I Ind	ate Inct	allation			
In	<u> </u>			7				7	 '-			7	0011	ipioto	1 -	37	1	UIVIOL	Dase	о ори	ato 11131	anation			
* #111																									

Exhibit P	-3a																							
MODELS	OF SYSTE	MS AFFEC	CTED:	EP-3	E				N	<u>/</u> ODIF	ICAT	ION T	ITLE:	EP-3	Sens	or Syste	em Impr	roveme	ent (OS	SIP 14	-95)			
														LPI/S	EI (SI	P-160) (Congre	ssiona	l Add	Projec	t)			
NSTALL	ATION INFO	DRMATION	1:																					
METHOD	OF IMPLE	MENTATIC	DN:	Comr	nerci	al Cont	racto	r Insta	llation	1														
ADMINIS	TRATIVE LI	EADTIME:			8	Months	3	_			PRO	DUCT	ΓΙΟΝ	LEAD ⁻	TIME:	24		Months						
CONTRA	CT DATES:	:	FY	2002:		_	FY	2003:	:	_	FY	2004:			F	Y 2005:		_						
DELIVEF	RY DATE:		FY	2002:			FY	2003:			FY	2004:			F	Y 2005:								
						-				-				(\$ in N				-						
	Cost:		Prior \	rears	FY	2002	FY	2003	FY	2004	FY	2005				2007	FY 2	2008	FY	2009	To Co	omplete	TC	OTAL
			Qty				Qty		Qty			\$			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	
FY 20	01 & PY (12)) kits	**	1.2		**	ĺ		Ť		Ť		Ť		Ĺ	,	Ì		Ĺ		Τ			
	02 () kits								l															
	03 () kits																							
FY 20	04 () kits																							
FY 20	05 () kits																							
FY 20	06 () kits																							
FY 20	07 () kits																							
FY 200	08 () kits																							
FY 200	09 () kits																							
To Co	mplete () kits	S																						
TOTA	L		**	1.2	12	**																		
Installat	ion Schedul	e																						
	FY 2001		FY 2002	2			FY 2	2003			FY 2	2004			FΥ	2005			FY 2	006				
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In					12																			
1 - '										12														
Out					_				1	5)/	2000			Го			1							
Out		EV 2007	,			EV 1	2000																	
Out	1	FY 2007	3	4	1	FY 2	3	4	1	2	2009	4	4	nplete	Т	OTAL								
Out	1			4	1			4	1	,		4	4			OTAL 12								

Exhibit P	-3a																							
MODELS	OF SYST	EMS AFF	ECTE	D:	EP-3E							MODIF	ICATION	TITLE:	EP-3 Ser	nsor Sy	stem Impr	oveme	nt (OSIP	14-95)				
INISTALI	ATION INF	-ОРМАТ	ON:												SSIP									
	OF IMPL				Commerc	oial Car	traatar la	atallatic																
					Commen			Stallatic	Ш															
ADMINIS	STRATIVE	LEADTIN	IE:				Months					PROD	DUCTION	LEADT	IME:				Months	<u>-</u>				
CONTRA	ACT DATE:	S:			FY	2002:		_	FY 2003:		FY	2004:			FY 2005:		_							
DELIVER	RY DATE:				FY	2002:			FY 2003:		FY	2004:			FY 2005:									
								_					(\$ in Milli				_							
	Cost:		Prior	Years	FY 20	002	FY 20	003	FY 20	004	FY 20	005	FY 20		FY 20	007	FY 20	800	FY 20	009	To Com	plete	ТОТ	AL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 200	1 & PY (12) kits	12	11.0																				
FY 200	2 () kits																							
FY 200	3 () kits																							
FY 200	4 () kits																							
FY 200	5 () kits																							
FY 200	6 () kits																							
FY 200	7 () kits																							
FY 200	8 () kits																							
FY 200	9 () kits																							
To Com	nplete () kits	S																						
TOTAL			12	11.0																				
Installatio	on Schedul	e																				•		
	FY 2001		1	2002			FY:	2003			FY 2	2004	1		FY 2	2005			FY 2	2006				
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	7	1	1	1	1																			
Out	6	1		1	1	1	1															j		
		FY 200	7			FY 2	2008			FY 2	2009		То				1							
	1	2	3	4	1	2	3	4	1	2	3	4	Comp		TOT	AL	NOTE: E	leven ((11) install	lations	reflect red	uction		
In															11		due to Cr	ete mis	shap.					
Out															11		J							

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITIEP-3 Quick Response Capability (OSIP 26-00)	
MODELS OF SYSTEM AFFECTED: EP-3E	TYPE MODIFICA Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION:

The EP-3E program responds directly to Operational Requirement (OR) #057-095-87. This OSIP provides the hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. The program procures, integrates, and installs new capabilities into the EP-3 Electronic Warfare Support Measures (ESM) weapon system to cope with the increasingly complex and dense threat environment. These improvements in productivity will be achieved by applying state-of-the-art signal exploitation/processing/display techniques with expanding program signal processing and communication capabilities. In order to reduce installation costs and the impact on limited fleet force levels, the QRCs will be installed in conjuction with Fleet Issue 3.0 and 4.0, the periodic installation of software mods and STR resolutions.

Operational Requirements Document (ORD) 057-095-87 and CAF-002-88 apply.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

One National Security Agency (NSA) asset has been installed on an ARIES II EP-3E aircraft as a prototype. Another R&D funded unit has been installed on the High Band Prototype (HBP) aircraft. Twelve more with improved technology were procured. Fleet Issue 3.0 and 4.0 installations will be conducted by a contractor field mod team

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior \	Years	FY	2002	FY:	2003	FY:	2004	FY:	2005	FY:	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	Т	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	*14	3.0																				
Installation Kits N/R		2.2																				
Installation Equipment	*14	12.5																				
Installation Equipment N/R																						
Engineering Change Orders	3																					
Data		.9																				
Training Equipment		.2																				
Support Equipment																						
ILS		.4																				
Other Support		1.7																				
Interim Contractor Support																						
Installation Cost	14	1.1																				
TOTAL PROCUREMENT	14	21.9																				

Notes:

1. Totals do not add due to rounding

* Two (2) kits are for SIL.

2. Asterisk indicates amount less than 51K

Exhibit P	-3a																								
MODELS	OF SYSTE	MS AFFEC	TED:	EP-3E	<u> </u>				N	ODIF	ICAT	ION T	TLE:	EP-3	Quick	Respo	nse Ca	pability	(OSI	P 26-0	00)				
INSTALL	ATION INFO	ORMATION	:																						
METHOD	OF IMPLE	MENTATIO	N:	Contr	actor F	ield Tea	am Mo	d																	
ADMINIS	TRATIVE LE	EADTIME:			5	Months					PRO	DUCT	ION I	LEAD	ΓΙΜΕ:	12		Months	_						
CONTRA	CT DATES:		FY	2002:		FY	2003:		FY	2004:		FY 2	2005:		_										
DELIVER	Y DATE:					FY							2005:		_										
	Cost:		Prior `	Years	FY	2002	FY	2003	FY	2004	FY	2005		\$ in M 2006	T	2007	FY 2	2008	FY:	วกกด	To Co	omplete	TC	TAL	
	0001.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty		Qty		Qty		Qty	\$	Qty	\$	Qty		Qty	1	
FY 20	01 & PY (14)) kits *		1.1 **					ĺ		ĺ				ĺ		Ì		Ĺ		ĺ				
FY 20	02 () kits																								
FY 20	03 () kits																								
FY 20	04 () kits																								
FY 20	053 () kits																								
FY 20	06 () kits																								
FY 20	07 () kits																								
	08 () kits																								1
	09 () kits																								
	mplete () kits	5																							
TOTA		011	14	1.1 **																					,
	2) kits are for a Kosovo Supp		ds fourte	en (14)	install:	s.																			
	рр			. ()																					
Installa	tion Schedul	е																							
	FY 2001		FY 200)2			FY 2	003			FY 2	2004			F١	2005			FY 2	006					
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	14														<u> </u>						\vdash				
Out	7	7																							
		FY 2007				FY 2	2008			FY:	2009			Го			1								
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	ТС	DTAL									
In																14									
Out																14	J								

Exhibit P-3a		INDIVIDUAL MODIFICATI	ION	
MODIFICATION TITLE P-3C to EP-3E	Conversion Program (OSIP 29-00)			
MODELS OF SYSTEM AFFECTED:	EP-3E		TYPE MODIFICATION:	Operational Improvement /
				Modernization
DESCRIPTION/JUSTIFICATION:				

The P-3C to EP-3E Conversion Program, designated as a No ACAT program, converts five P-3C aircraft to EP-3E aircraft. This OSIP responds to primary and backup EP-3E inventory requirements in VQ-1/2 Required Operational Capabilities Projected Operational Environment (ROC/POE) dated 9 Feb 2000, OPNAVINST 5442.8, and CNO letter Ser N880G10/0U661331 dated 30 May 00. Primary Aircraft Authorization (PAA) of 12 aircraft are required to perform operational missions. Backup Aircraft Authorization (BAA) of four aircraft (i.e., pipeline) are required to permit scheduled and unscheduled maintenance, modifications, inspections and repair without reduction of aircraft available for operational missions. The OSIP also addresses mission avionics requirements in Operational Requirement (OR) #057-095-87 and the CAPSTONE ORD (CAF-002-88). The first conversion replaces an EP-3E damaged in a 1997 mishap and struck from the PAA inventory. The second, third, fourth and fifth conversions are pipeline aircraft.

This program was developed to maximize procurement efficiency by grouping the aircraft versus individual buys. Funding in FY00 covered NRE for the initial three aircraft. Funding in FY01 procures two aircraft while FY02 funding procures three aircraft and ARIES II/SSIP Obsolescence Risk Mitigation NRE. Four aircraft will be procured under the same contract in a configuration sufficient for induction into the JMOD program (OSIP 11-01), and the fifth aircraft will be configured as a JMOD aircraft. FY01 Intelligence Program Decision Memorandum (IPDM) moved funding for the second pipeline aircraft from FY03 to FY02.

This OSIP includes \$60.0M in Defense Emergency Response Funding (DERF) for an additional conversion aircraft and \$15.0M for PR-32 avionics replacements/repairs. PR-32 avionics will be installed during the SSIP installation.

In addition, this OSIP contains funding for four P-3 to EP-3E Conversion aircraft in FY05 and FY06 to replace aircraft reaching 100% Fatigue Life Expended (FLE). This effort will maintain the PAA of 12 as older aircraft retire. A portion of the mission system equipment will be crossdecked from retiring aircraft to the CILOP aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This program is a post-Milestone III, based on SSIP Milestone III dated 29 March 1996. The NRE contract was awarded in Feb 2001. The production contract for the replacement and first pipeline aircraft was awarded in September 01. The FY02 option for the second through fourth pipeline aircraft was exercised in the 2nd guarter FY02.

Two aircraft are funded in FY05 and two in FY06. Contract award is anticipated in 2nd quarter FY05 for the first two aircraft and an option will be excercised in FY06 for the third and fourth aircraft.

xhibit P-3a										INDIVIDU	JAL MO	DIFICAT	ION									
MODIFICATION TITL P-3C to EF	P-3E Co	onversion I	Progra	m (OSIP	29-00)																	
MODELS OF SYSTEM AFFECT	ED.	EP-3E												TYPE MO	DIFIC	ATION:	Oner	ational In	nnrove	ement / Mo	derni	zation
MODELS OF STOTEM AFTECT	LD.	LI -OL											-	TITLING	יטוויטני	ATION.	Ореі	ational in	ipiove	inent/ Mo	demi	Zation
INANCIAL PLAN (TOA, \$ in Mi	llions):																					
	Pric	r Years		2002		/ 2003	F	2004	F	Y 2005	F	2006	_	Y 2007		2008	_	Y 2009		Complete	_	JATC
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E													-						+-			
PROCUREMENT													-						+			
Installation Kits																			ــــــ			
REPLACEMENT AIRCRAFT	1	11.0																				
PIPELINE AIRCRAFT	1	12.0	2	23.7																		
DERF AIRCRAFT			1	16.4																		
CROSSDECK AIRCRAFT									2	32.4												
Installation Kits N/R		11.8		4.0						1.4												
Installation Equipment																						
REPLACEMENT AIRCRAFT		**																				
PIPELINE AIRCRAFT	1	12.2	2	21.7																		
DERF AIRCRAFT			1	20.5																		
DERF PR-32 AVIONICS			1	14.4																		
CROSSDECK AIRCRAFT									2	14.2												
Installation Equipment N/R				5.8						4.3												
Engineering Change Orders																			T			
Data				1.1						2.1			t						1			
Training Equipment				1.1						2.1									T			
Support Equipment				.5															1	\vdash		
Testing				2.6							 		t						1			
ILS				2.0						.5			H						t			
	1						1												+			
Other Support				4.0					1	5.2			\vdash						+	\vdash	-	
Interim Contractor Support							1		-								H		+	\vdash		
Installation Cost	2	27.9		43.2			-		2		_		\vdash						+	\vdash		
TOTAL PROCUREMENT	3	74.9	7	159.6	I		1	l	4	80.0			1		l				1			

Notes: ** Replacement aircraft B Kit to be crossdecked from crash-damaged aircraft

^{1.} Totals do not add due to rounding NOTE: One (1) replacement and four (4) pipeline aircraft will be procured in a JMOD configuration.

^{2.} Asterisk indicates amount less than 51K

Exhibit P-3a	a																							
MODELS O	F SYSTEM	ИS AFFEC	CTED:	EP-3E							MOD	OIFICATION	N TITLE:	P-3C to EF	P-3E C	onversion	Program	ı						
İ														Replacem	nent/P	ipeline/DI	ERF Air	craft						
INSTALLAT	TON INFO	RMATION	l:																					
METHOD C	F IMPLEM	MENTATIO	N:	Comme	rcial Conti	ractor Ins	tallation																	
ADMINISTR	RATIVE LE	ADTIME:			8	3	Months	-				CTION LE. DECK AIR				Months Months	-							
CONTRAC	T DATES:	F'	Y 2002:	1/02		F	Y 2003:								2005:		_							
DELIVERY	DATE:	F'	Y 2002:	12/04	_		Y 2003:		_					FY	2005:	4/06	_							
					-				-			(\$ in Millio					-							
	Cost:		Prio	r years	FY 3	2002	FY.	2003	ΕV	2004		2005		2006	F	r 2007	FY	2008	F	Y 2009	To 0	Complete	TC	TAL
	000		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (2) k	its	2	27.9																				
FY 2002	(3) kits				3	43.2																		
FY 2003	() kits																							
FY 2004	() kits																							
FY 2005	(2) kits										*	19.8												
FY 2006	(2) kits																							
FY 2007	() kits																							
FY 2008																								
FY 2009																								
	olete () kits																1		-					
* FYOS **	nd FY06 in		2	27.9	•				- 5700	I TV07		19.8					l							
F105 ai	IU F 100 II	iciudes iui	iding id	ii kiis and	i ii istalis.	IIIStaliatic	п із ріа	iliteu to	1 1 1 00	anu F 107	respectiv	reiy.												
Installation	n Schedule	•																						
	FY 2001		FY 20	02			Y 2003				FY 2	2004			FY	2005			FY	2006				
	& Prior	1	2**	3***	4****	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	1 *		1	1	2																			
Out													1	1		1	2							
		FY 20	107			FY 20	108		1	EV	′ 2009			То	1		T	* Pon	lacom	ent aircra	oft (1)			
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	Т	OTAL				ent aircraft				
In													4	•		9	1			‡2 aircraf				
Out													4			9				#3/DERF		aft (2)		

Exhibit P-3a	INDIVIDUAL MODIFICATION	
MODIFICATION TITL EP-3E Joint Airborne SIGINT Architecture (JASA) Modification Program (JMOD) (OSIP 11-01)	
MODELS OF SYSTEM AFFECTED: EP-3E	TYPE MODIFICATION:	Operational Improvement / Modernization
DESCRIPTION/JUSTIFICATION:		

The EP-3E JASA Modification (JMOD) Program upgrades the capabilities of the Sensor System Improvement Program (SSIP) configuration of the EP-3E. This OSIP responds to Operational Requirement Document (ORD) #0571-78-01 and the CAPSTONE ORD (CAF-002-88). JMOD is an evolutionary acquisition program consisting of three block mods. MOD 1 of this program updates the EP-3E infrastructure, improves auto-ESM with the Story Finder system, incorporates Joint Signal Processor (JSP), incorporates SSIP corrections, and incorporates Quick Response Capabilities (QRC) (including the SINCGAR upgrade and IR Strobes modifications) into JMOD. MOD 2 will incorporate a low band capability which improves special collection capability and adds the Common Data Link (CDL) allowing the EP-3E to serve as a network-centric airborne SIGINT collection element capable of sharing data with ground, air, and ship-based operators. MOD 3 incorporates precision targeting. This OSIP now addresses 16 aircraft. Nine of the sixteen EP-3E aircraft will be managed through Special Structural Inspections (SSIs) beyond JMOD Full Operational Capability (FOC).

The Baseline Update to MOD 1 is required in order to ensure the JMOD TKI aircraft has the same baseline configuration and capabilities as SSIP and QRC fleet assets.

This OSIP includes FY02 Congressional Plus-ups for Hyperwide/Deltawing and VME Tuners; and FY03 Congressional Plus-ups for Radio Frequency Distribution (RFD) Upgrades; JMOD 1 Upgrades and SIGINT Tuner.

This OSIP includes \$15.0M in FY02 Defense Emergency Response Fund (DERF) funding for SIGINT.

BEginning in FY03 and continuing in FY05 through FY09, the EP-3E platform will receive COMINT/ELINT upgrades.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

RDT&E funded development commenced in FY-97 with non-recurring engineering for development and integration of a prototype kit installed into an SSIP configured EP-3E aircraft in the beginning of 1st quarter FY-01. The JMOD MOD 1 LRIP decision was based on the JMOD CDR (2nd quarter FY00) and the Baseline Update CDR (3rd quarter FY02). MOD 1 DT will commence 6/03 and completes 8/03. OT commences 11/03 and completes 1/04 due to program rebaseline Update Program to MOD 1. MOD 1 MSIII full rate production (FRP) approval is planned for 3rd quarter FY06 and 2nd quarter FY08 respectively. Production procurements complete in FY15.

xhibit P-3a	INDIVIDUAL MODIFICATION

MODIFICATION TITL EP-3E Joint Airborne SIGINT Architecture (JASA) Modification Program (JMOD) (OSIP 11-01)

MODELS OF SYSTEM AFFECTED: EP-3E TYPE MODIFICATION: Operational Improvement / Modernization

FINANCIAL PLAN (TOA, \$ in Millions):

	Prio	r Years		2002		2003		2004	F١	2005		Y 2006	FY	2007		2008	_	Y 2009		Complete		OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (H2694)		18.3		8.1		2.5		13.3		10.3										87.0		139.5
PROCUREMENT																						
Installation Kits																						
BLOCK MOD 1					3	4.0	3	4.1	1	1.4												
BLOCK MOD 2																						
BLOCK MOD 1 to 2																						
BLOCK MOD 1 to 3																						
BLOCK MOD 2 to 3																						
VME Tuners			1	.3	1	.8																
IR Strobes Mod	10	.2																				
SINCGARS Upgrade			16	1.2																		
COMINT/ELINT Upgrades						1.9				2.3												
RFD Upgrades					4	.4																
Installation Kits N/R		.2		1.9		3.6		.7		1.6												
Installation Equipment																						
BLOCK MOD 1					3	11.1	3	11.3	1	4.0												
BLOCK MOD 2																						
BLOCK MOD 1 to 2																						
BLOCK MOD 1 to 3																						
BLOCK MOD 2 to 3																						
VME Tuners			1	.5	1	1.9																
IR Strobes Mod	10	.1																				
SINCGARS Upgrade			16	.6																		
DERF SIGINT				14.2																		
COMINT/ELINT Upgrades						7.2				8.5												
RFD Upgrades					4	2.0																
Installation Equipment N/R		2.0		13.8		6.4		.6		3.8												
Engineering Change Order	rs																					
Data				5.9		1.4		3.3		2.4												
Training Equipment		.1		2.1		2.4		.3		.3												
Support Equipment		.8		1.3		.8		.3		.2												
Testing		.4		2.2		4.7		2.2		1.5												
ILS		.5		2.2		3.2		1.2		.3												
Other Support		.4		4.0		4.0		2.4		4.0												
Interim Contractor Support																						
Installation Cost			16	.5	16	1.9	3	5.1	3	8.4												
TOTAL PROCUREMENT	20	4.6	34	50.7	16	57.7	6	31.5	2	38.8											\Box	

Notes:

^{3.} Two JMOD 1 kits are funded under the Conversion OSIP (29-00) and one JMOD 1 kit was funded as an R&D TKI.

^{1.} Totals do not add due to rounding

^{2.} Asterisk indicates amount less than 51K

Exhibit P-3a																									
MODELS OI		MS AFF	ECTED	EP-3E						М	ODIFIG	CATION T	ITLE:	EP-3E Joi	nt Airbo	rne SIGIN	Γ Archite	cture (JAS	A) Mo	dification I	Progran	n (JMOD)	(OSIF	P 11-01)	
				-						•				JMOD In:							- 9	,/	,		
NSTALLAT	ION INFO	RMATIO	ON:																						
METHOD O	F IMPLEN	/ENTA	TION:	Commer	cial Co	ntractor	Installat	tion																	
ADMINISTR	ATIVE LE	ADTIM	E:		6	i	Months	_			JMOE	PRODU	CTIOI	N LEADTI	ME:	12	2	Months	_						
CONTRACT	DATES:			FY 2002:	6/02	F	Y 2003:	3/03	F	FY 2004:	3/04	FY	2005:	3/05											
DELIVERY [DATE:			FY 2002:	6/03	_	Y 2003:		_	FY 2004:		-		3/06	_										
						=			_			(\$ in !			_										
	Cost:		Prio	r years	FY	2002	FY	2003	FY	2004	F	Y 2005		Y 2006	F`	Y 2007	FY	2008	F'	Y 2009	To C	Complete	Т	OTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY () kit	ts																				_			
FY 2002	(1) kits				1	.1																			1
FY 2003	(3) kits								3	5.1															l
FY 2004											3	5.9													l
FY 2005															-										l
FY 2006																									ł
FY 2007																									l
FY 2008 (l
To Comp		cits																							
TOTAL	. ,				1	.1			3	5.1	3	5.9													
Installation		e				•								1								ı			
	FY 2001		1	2002	1 .			2003	1			2004	l .		1	2005				2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In Out					1	-					1	1	1	1	1	1	1								
Jui					_ '		I	I				l .				1	<u>- ' </u>		<u> </u>	<u> </u>					
		FY 2					2008				2009			То	_	·OTA1									
In	1	2	3	4	1	2	3	4	1	2	3	4	С	omplete 32	-	OTAL 39	1								
Out														34	1	39	1								

xhibit P-3a																								
MODELS OF	SYSTEM	IS AFFEC	TED:	EP-3E						М	IODIFI	CATION	TITLE:	EP-3E Joi	nt Airb	orne SIG	SINT Arc	chitecture	(JASA	A) Modifica	ation Pr	rogram (JN	10D) (OSIP 11
NSTALLATI	ON INFOR	RMATION	:											IR Strobe	es Mod	d / SINC	GARS	Upgrade	e / CO	MINT/EL	INTRF	D Upgrad	les/SI	GINT Tu
METHOD O	F IMPLEM	ENTATIO	N:	Comme	ercial Co	ontracto	or Install	ation																
DMINISTR	ATIVE LE	ADTIME:			1		Months	<u>-</u>			PROI	DUCTIO	N LEAI	OTIME:		3/12		Months	<u> </u>					
CONTRACT	DATES:	FΥ	/ 2002:	4/02	- -	F	Y 2003:	3/03	-	FY	' 2004:		_	FY	2005:									
DELIVERY [DATE:	F	/ 2002:	7/02	_	F	Y 2003:	3/04	-	FY	2004:		_	FY	2005:									
			1		1				T			(\$ i	in Millio	ns)							1			
	Cost:			r years	1	2002		2003		2004		2005		2006		2007		2008		2009		Complete		OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 8		kits			10																			
FY 2002 (5	.3	1																	
FY 2003 (5	1.5				2.4	1											
FY 2004 (
FY 2005 (
FY 2006 (
FY 2007 (
FY 2008 (
To Compl	,																							
TOTAL	oto () idio				15	4	16	1.9				2.4	1											
* Quantities	-	Y03, FY05	5-FY09	for COM	IINT/EL	INT. C	ongress	ional Pl	us-up f	or 4 RF	D Upgı	ades an	d 1 Tur	ner are fur	ided ir	n FY03.			•				•	
Г	TV 0004		F\/ 00	00		.	EV 200			1	F)/	0004		I	F)/ (2005		ı	ΓV	2000		1		
	FY 2001 & Prior	1	FY 20	3	4	1	FY 200	3 *	4 **	1	2	2004	4	1	2	2005	4	1	2	2006	4	l		
ln	311101	<u>'</u>		5	10	5	6	4	1			, ,	 	- '-			-	- '-			-			
Out				5	10	5	0	4	11			4	1									1		
Jui					1 10		1		<u>' ''</u>		<u> </u>		<u>'</u>	<u> </u>		I	<u> </u>	I		l		I		
ſ		FY 200	07			FY	2008			FY	2009			То			Ī							
ľ	1	2	3	4	1	2	3	4	1	2	3	4	Co	mplete	TO	OTAL								
			1	1	i		1	l					1	•										
ln																31								

CLASSIFICATION: UNCLASSIFIED

	BUDGE	T ITEM	JUSTIFICAT	ION SHEET				DATE:				
			P-40							February 20	103	
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NO	MENCLATURE					
Aircraft Procu	rement, Navy/	APN-5 Airc	raft Modification	s				F	-3 Series Modifi	cations		
Program Element for Code B Items:						Other Related	Program Elem	nents				
	Prior	ID									То	1
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QUANTITY												<u> </u>
COST												1
(In Millions)	2,386.1		195.5	165.5	95.0	137.2	225.6	175.1	68.9	101.3	2,078.6	5,628.8

This line item funds modifications to P-3 aircraft. The P-3 Orion is a 4 engine, long-range maritime surveillance aircraft which performs Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW) in support of battle group and littoral operations. The overall goal of the modifications budgeted in FY2004 is to continue the USQ-78 installation (part of Update III), weapon system improvements, upgrading and refurbishing airframe components and systems. Total aircraft inventory is 228. The P-3C has an average service life of 29.5 years. The specific modifications budgeted and programmed are:

					(TOA, \$ in M	lillions)						
											То	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
80-84	Update III Block Upgrade	997.3	41.3	13.1	12.7	21.2	40.4	18.6			120.6	1265.3
53-85	Critical Systems Improvements	18.5	7.0	2.9	0.4	0.6	0.4	0.9	0.4	0.4	0.2	31.7
60-86	UHF/VHF Comm. Update	110.4	5.0	6.4							32.8	154.6
28-92	GPS	40.0	0.5									40.5
42-92	Counter Narcotics Improv Prog		3.8									3.8
10-94	Sustained Readiness	323.1	0.6									323.7
	DERF (non-add)		2.0									
29-94	ASUW Improv. Prog.	780.5	128.5	126.8	58.1	81.4	136.7	106.2	17.5	48.5	1336.6	2820.9
24-98	P-3 Derivative Aircraft		0.2									0.2
33-99	Counter Drug	22.2										22.2
34-99	Additional Aircraft #1	41.0										41.0
22-00	Additional Aircraft #2	48.1										48.1
13-01	CNS/ATM	5.1	8.6	16.3	9.7	14.1	12.0	12.4	13.0	13.3	98.8	203.4
04-04	P-3 Readiness Improvements				14.1	19.9	36.0	36.9	38.0	39.0	489.6	673.5
TOTAL		2386.1	195.5	165.5	95.0	137.2	225.6	175.1	68.9	101.3	2078.6	5628.8

FY-02 Defense Emergency Response Funds(DERF) in the amount of \$2.0 auguments OSIP 10-94.

CLASSIFICATION:

^{*} Indicates value less than \$51,000. Totals may vary due to rounding

xhibit P-3a INDIVIDUAL MODIFICATION
ODIFICATION TITLE Update III Block Upgrade (OSIP 80-84)
ODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATION Operational Improvement
ESCRIPTION/JUSTIFICATION:
The Update III Common Configuration provides the Fleet with significantly improved anti-submarine warfare detection and classification which are essential for target prosecution in average and poor water conditions. This program will modify older P-3's to an Update III common configuration. This modification includes associated processors, receivers, displays, and recorders. Update III Common Configuration is comprised of two major efforts: the Block Modification Upgrade program and the AN/USQ-78 Upgrade program. Both are based on Decision Coordinating Paper W-080-AS and the Program Management Plan #0526 serial 902D/6U324405. The objective of the Block Modification Upgrade program is to standardize the Maritime Patrol Aircraft fleet to the Update III configuration. This OSIP will update the configuration of 25 Update II, and II.5 aircraft towards the total inventory requirement of 188 Update III configured aircraft. Eight of the 25 aircraft are Reserve assets. The objective of the AN/USQ-78 Upgrade program is to correct display shortcomings of the USQ-78 system as identified by Fleet Operational Advisory Group and by Operational Test and Evaluation, to provide for future workload sharing capability as directed by Chief Naval Operations (CNO) and processing growth for the life of the aircraft. Total aircraft and lab trainers to be modified by Loral ECP #LFS-95-0011R2 is 152.
FY-02 SEI Congressional Plus-up provides associated NRE, 8 units, and installs as initial integration of new capability. FY-02 Congressional Plus-up provides NRE for Acoustic Data Recorder-Digital (ADR-D) input enhancements, a prototype digital model (EDM) and 31 ADR-D upgrade kits.
FY-03 Congressional Plus-up provides associated NRE for 8 units to upgrade and install ESEI (ALR-95). FY-03 Congressional Puls-up provides 10 additional ADR-D kits with some NRE for obsolescense issues. FY-03 Congressional Plus-up for USQ-78(V) will be used to upgrade existing USQ78(V) hardware for technical refresh and End of Life (EOL) requirements.
EVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Update III received approval for limited production in December 1983 and December 1984. Approval for full production was received in January 1986.

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE Update III Block Upgrade (OSIP 80-84)	
MODELS OF SYSTEM AFFECTED: P-3C	TYPE MODIFICATIOI Operational Improvement

	Prior	Years	FY:	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Prior Year Kits	434	72.5																				
MK-50 Kits	147	4.0																				
USQ-78A Kits	37	6.2	16	2.8			2	1.3	14	3.3												
Block Mod Upgrade Kits	8	9.9																				
Installation Kits N/R		63.5		2.2				2.2		.5												
Installation Equipment																						
Prior Year Equipment	1,181	349.8																				
CP-2044/ASQ CPU Equip	121	64.1																				
USQ-78A/CHRDS Equip	37	71.7	16	12.0			2	5.8	14	14.7												
CHRDS Equip	4	.1																				
Block 1C Harpoon Equip	148	5.1																				
AN/ASH-33/RDSS	221	24.3																				
Common CONFIG Equip	22	64.0																				
PEP Equip	25	6.4																				
DASD/DASD Docks Equip	86	.7	32	.3			4	.1	28	.4												
ADR		7.6		2.0		2.4																
SEI Cards		2.1		1.1		1.8																
DRR		1.7																				
LESPA Equip		19.0																				

Notes:

^{1.} Asterick indicates amount less than 51K

Exhibit P-3a					INDIVI	IDUAL MODIFI	CATION				
MODIFICATION TITLE Update III	Block Upgra	de (OSIP 80-84)									
MODELS OF SYSTEM AFFECT	ED: <u>P-30</u>						TYPE	MODIFICATIO	Operational In	mprovement	
FINANCIAL PLAN (TOA, \$ in Mill	lions):										
	Prior Yea	rs FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	TOTAL
ı	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$	Qty \$

	Prior	Years	FY:	2002	FY:	2003	FY:	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
Installation Equipment N/R		51.6		5.0		5.3																
Engineering Change Orders																						
Data		16.8																				
Training Equipment		15.5		.9																		
Support Equipment		1.6																				
ILS		3.5		.2																		
Other Support		111.2		6.6		1.1		1.7		2.1												
Interim Contractor Support																						
Installation Cost	512	24.2	14	8.1	5	2.5	16	1.6	2	.2										, The second	Ť	
TOTAL PROCUREMENT	2,471	997.3	64	41.3		13.1	8	12.7	56	21.2												

Notes:

- Totals do not add due to rounding
 Asterick indicates amount less than 51K

ODELS OF	SYSTEMS	AFFEC	TED:	P-3C						М	ODIFIC	ATION	TITLE:	Update	III Bloc	k Upgrad	de (OSI	IP 80-84) USQ-	-78A				
ISTALLATI	ON INFOR	MATION	:																					
ETHOD OF	FIMPLEME	NTATIC	N:	Installatio	n will b	e accom	plished	on-site	by contr	actor fie	ld team													
MINISTRA	ATIVE LEA	DTIME:			4		Months.				PROD	UCTIO	N LEAI	OTIME:		22	!	Months						
ONTRACT	DATES:		F	Y 2002:				Y 2003:				Y 2004:				Y 2005:			-					
						_								-				=						
ELIVERY D	DATE:		٢	Y 2002:	11/03	-	F	Y 2003:			F				F	Y 2005:	4/06	-						
	Coot:		Drior	Years	EV	2002	EV	2003	EV	2004	EV	(\$ i 2005	n Millio	ns) 2006	EV	2007	EV	2008	EV	2009	To Co	mploto	то	TAL
	Cost:		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	mplete \$	Qty	\$
FY 2001 8	& PY (37) k	its	25	1.5	8	 	4	.2	α.,		α.,		α.,	<u> </u>	α.,	_	۵.,	<u> </u>	α.,	<u> </u>	α.,	<u> </u>	α.,	
FY 2002									16	1.6														
FY 2003																								
FY 2004 ((2) kits										2	.2												
FY 2005	(14) kits																							
FY 2006	(35) kits																							
FY 2007																								
FY 2008																								
To Comp	() kits lete (43) kit																							
TOTAL	iete (43) Kit	,	25	1.5	8	.5	4	.2	16	1.6	2	.2												
** FY07 in	cludes fund acludes fund Schedule	-)4.															
	FY 2001		FY 2	2002			FY:	2003			FY:	2004			FY	2005			FY:	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In	25	2	2	2	2	1	1	1	1	4	4	4	4				2							
Out	25	2	2	2	2	1	1	1	1	4	4	4	4				2]		
		FY 20	07			FY:	2008			FY:	2009			Го			1							
	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	тс	TAL								
n													9	97	1	52								
Out														97	1	52								

xhibit P-3a																								
MODELS OF	SYSTEM	S AFFE	CTED:	P-3C						N	ODIFIC	CATION	TITLE:	Update	III Block	Upgrade	(OSIP	80-84) Blo	ck Mod	Upgrade				
NSTALLATI	ON INFOR	RMATION	1:																					
METHOD OF	IMPLEM	ENTATIO	ON:	Installatio	n will be	e accompl	ished at	contract	or's facil	ity.														
DMINISTRA	ATIVE LEA	ADTIME:			4		Months				PROD	OUCTION	N LEAD	TIME:		24		Months	_					
CONTRACT	DATES:			FY 2002:		_	F	Y 2003:			F	FY 2004:			F	Y 2005:								
ELIVERY D	ATE:			FY 2002:								FY 2004:				Y 2005:								
													n Million											
	Cost:		Prior	r Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY	2007	FY	/ 2008	F١	2009	To Co	omplete	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (8) kit	ts	1	1.4	6	7.3	1	1.6																
FY 2002 () kits																							
FY 2003 () kits																							
FY 2004 () kits																							
FY 2005 () kits																							
FY 2006 () kits																							
FY 2007 () kits																							
FY 2008 () kits																							
FY 2009 () kits																							
To Compl	ete () kits																							
TOTAL			1	1.4	6	7.3	1	1.6																
NOTE: Blo 2 kits and Installation	installation						and ins	tallation	s funde	d via a s	separate	e progra	m outsid	de OSIP	80-84;	8 install	l kits an	d installatio	ons refle	ected abov	ve for U	SNR;		
	FY 2001		FY 2				FY 2					2004			1	2005	1			2006	1			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ln	1	1	1	2	2	1															1			
Out			1		1	1	2	2	1															
		FY 2	007			EV	2008		I	EV	2009			Го	1		1							
	1	2	3	4	1	2	3	4	1	2	3	4	4	ro nplete	тс	TAL								
																8	1							
ln																0								

Exhibit P-3a			INDIVIDUAL MODIFICAT	TION
MODIFICATION TITLE:	Critical System	s Improvements (OSIP 53-85)		
MODELS OF SYSTEM AF	FECTED:	P-3C		TYPE MODIFICATION Readiness

DESCRIPTION/JUSTIFICATION:

The purpose of this program is to provide the requisite funding to implant various minor cost effective changes to critical P-3 weapon systems. These changes are essential to the operation of the aircraft and/or it's mission systems, but are not currently being addressed by an existing aircraft modification program. The changes can be either airframe, avionic, or procedures.

SINGLE ARMAMENT CONTROL PANEL (SACP) ECP JAX P3-649: This ECP replaces existing 9622068 Wing Jettison/Special Weapon Control Box and the A-393 Pilot's Armament Control Box in 228 P-3C aircraft with the PEU-196/A Pilot's Armament Control Box.

KAPTON WIRING REPLACEMENT MOD ECP JAX P3-610: This ECP replaces the Kapton wiring in the wing trailing edge of P-3C aircraft. The initial program will modify 97 P-3C aircraft.

STRUCTURAL DATA RECORDING SYSTEM (SDRS) ECP SEI 196-1A: The SDRS (ASH-37) CCB was approved in June of 1994 to install the ASH-37 in all P-3C aircraft. The funding to procure and install the kits was provided by OSIP 5-93. The funding for SDRS ended in FY95. The task covered in this OSIP include SDRS Pubs, SDRS data reduction and installation of last 20 kits

STANDBY ATTITUDE INDICATOR (PEANUT GYRO) ECP BFGAAS ID-1481A/A-25583-48: This ECP modifies the P-3C Standby Attitude Indicator (Peanut Gyro) to operate with a DC power vice an AC power. This modification is planned for 203 P-3C's and 5 trainers.

E-J RECEIVER MOD AN/ALR-66 B(V)3 ECP LITTON 970: The AN/ALR-66B(V)3 ECP upgrades certain components of the AN/ALR-66A(V)3 ESM to improve system performance, including the E-J Amplifier Receivers, CD Amplifier Receivers, Processor Interface and Computer Converter. The effort under this OSIP supports the modification and certain RIM in support of AN/ALR-66 B(V)3 installs on 145 P-3C aircraft, 6 operational trainers and 10 test bench installations.

APS-115 FEEDBALL MODIFICATION ECP CUBIC 2509-02F3: This ECP are liability and performance improvement to the APS-115 radar feedball. The unmodified feedballs are susceptible to burning out which decreased the APS 115 sensitivity (or caused failure) and made the feedball incompatible with the AN/ALR-66 B(V)3 ESM system, which uses the feedball as the center channel receiver. This modified will be installed in all APS-115 equipped aircraft. This modification effects 90 P-3C aircraft.

P-3 PILOT/COPILOT/ PLANE CAPTAIN SEAT MODIFICATION FOR THE MA-16 INERTIA REEL ECP JAX P3-519: MA-1 and MA-2 Inertia Reels are no longer available in the supply system and further procurement is anticipated. This ECP provides a kit to modify 50 Pilot/Copilot/Plane Captain seats to install the MA-16 Inertia Reel as a substitute for the MA-1/2 to meet outstanding requirements.

FOLLOW-0N KAPTON WIRING REPLACEMENT (WHEEL WELLS) ECP TBD: The Kapton Wiring in the landing gear retraction housing areas (wheel wells) will require replacement due to weather exposure. Initial program will modify 18 P-3C aircraft.

DIGITAL AUTOPILOT: An FY02 Congressional Plus-Up provides funding to perform NRE, procure, install and test a Digital Autopilot in the P-3C as a replacement for the ASW-31 system, which is highly unreliable and costly to maintain. An FY-03 Congressional Plus-Up provides funding to procure and install four Digital Autopilot systems.

AIRCRAFT HEALTH MONITORING SYSTEM (AHMS) ECP N/A: An FY02 Congressional Plus-Up provides NRE funding to develop an AHMS for the P-3C which can monitor critical aircraft systems (engines, structures, electrical, avionics) to identify items that require maintenance or repair. An FY-03 Congressional Plus-Up provides funding to test an AHMS in a P-3C.

Infra-Rad (IR) Strobes ECP JAX P3-776: FY-02 Defense Emergency Response Fund (DERF) funding for 100 IR strobes for P-3 aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The changes identified are minor and do not require approval for full production.

Exhibit P-3a		INDIVIDUAL MODIFICATION
MODIFICATION TITLE:	Critical Systems Improvements (OSIP 53-85	
MODELS OF SYSTEM A	FEECTED: P-3C	TYPE MODIFICATION Readiness

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						L
APS-115 Feedball Mod	90	1.6																				<u></u>
EJ Receiver Mod	145	**																				<u></u>
Single Arm Cont Panel (SACP)	228	.7																				<u></u>
Kapton Wire Replace (Wings)	97	1.0																				<u></u>
Kapton Wire Replace (Wheel W	ell)																					L
Standby (Peanut) Gyro Mod	55	.3	6	*	5	*	18	.1	19	.1												<u></u>
AHMS					1	.1																<u></u>
Digital Autopilot			1	.3	4	.2																<u></u>
Infra-Red (IR) Strobes			100	.5																		<u></u>
MA-16 Inertial Reel Mod kits	50	.1																				<u></u>
Prior Years Kits	171	7.6																				L
Installation Kits N/R		1.0		2.9		.3																L
Installation Equipment																						L
AHMS					1	**																L
Digital Autopilot			1	.2	4	.7																L
Infra-Red (IR) Strobes			100	.5																		<u></u>
Installation Equipment N/R																						<u> </u>
Engineering Change Orders																						<u></u>
Data		2.2		.4		.3		.1		.3												<u></u>
Training Equipment		.3		.1		.1																L
Support Equipment		.2																				<u></u>
ILS		*				.2																<u> </u>
Other Support		1.8		.7		.8		.1		.1												<u> </u>
Interim Contractor Support																						
Installation Cost		1.7		1.4																		<u> </u>
TOTAL PROCUREMENT	836	18.5	208	7.0	15	2.9	18	.4	19	.6												

Notes:

- 1. Totals do not add due to rounding
- 2. Asterick indicates amount less than 51K ** AHMS Equipment on Loan from Contractor.

Exhibit P-3	a																									
MODELS (OF SYSTI	EMS AF	FECTE	P-3C					M	ODIFI	CATI	ON TI	TLE:	Critica	l Sys	tems Im	prover	ment (OSIP	53-85)	Kapto	n Wiri	ing (\	Vings)	s)	
INSTALLA	TION INF	ORMA	ΓΙΟΝ:																							
METHOD (OF IMPLE	MENT	ATION:	Contra	actor	Field M	1od T	eam																		
ADMINIST	RATIVE L	.EADTII	ME:			Мс	nths				PRC	DUCT	ION	LEAD	IME	5	M	Months	_							
CONTRAC	T DATES	S:	F	Y 2002:		FY 2	:003		FY	2004:		FY 2	005:													
DELIVERY	DATE:		F	Y 2002:		FY 2	:003		FY	2004:		FY 2	005:													
													(\$	in Milli	ons)										_	
	Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY 2	2008	FY	2009	To Cor	nplete	ТО	TAL		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$]	
FY 2001	1 & PY (97	7) kits	95	.9	2	.1																				
FY 2002	2 () kits																									
FY 2003	3 () kits																									
FY 2004	4 () kits																									
FY 2005	5 () kits]	
FY 2006	6 () kits																									
FY 2007	7 () kits																									
FY 2008	3 () kits																									
FY 2009	9 () kits																									
To Com	plete () ki	ts																								
TOTAL			95	.9	2	.1																				
Installatio	on Schedu	ıle	FY 2	002			FY 2	2003			FY 2	2004			FY	2005			FY	´ 2006					-	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In	95			1	1																					
Out	95			1	1																					
																	-					•				
		FY 2	007			FY:	2008			FY:	2009			То												
	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	TO	OTAL										
In					Ĺ											97										
Out																97										

Exhibit P-3	a																								
MODELS C	F SYSTE	MS AFF	ECTE	P-3C					М	ODIFI	CATI	ON TI	TLE:	Critica	l Sys	tems Im	prover	ment (OSIP	53-85)	Kapto	on Wir	ing (Wheel	Well)
INSTALLAT	TION INFO	ORMATI	ON:																						
METHOD (OF IMPLE	MENTA ⁻	TION:	Contra	actor	Field M	∕lod Te	eam																	
ADMINISTI	RATIVE L	EADTIM	E:			М	onths	_			PRC	DUCT	ION	LEAD ⁻	ГІМЕ	5	N	1onths	<u>.</u>						
CONTRAC	T DATES	:	FY	/ 2002:		FY	2003:		FY	2004:		FY 2	005:												
DELIVERY				/ 2002:																					
						-			•					n Millio											
	Cost:		Prior	Years	F۷	2002	F۷	2003	ΕV	2004	ΕV	2005		2006		2007	FV ′	2008	F۷	2009	To Co	mnlet	TO	ΤΔΙ	į
	CUSI.		Qty	\$	Qty	\$	Qty	\$	Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty		
FY 2001	& PY () k	rits	Qiy	Ψ	Qiy		Qty	Ψ	Q. iy	Ψ	Giy	Ψ	Giy	Ψ	Giy	Ψ	Qty	ų.	Qty	Ψ	Qty	Ψ.	Giy	Ψ	
FY 2002																							t		
FY 2003																									
FY 2004	() kits																								
FY 2005																									
FY 2006	() kits																								
FY 2007	(18) kits																								
FY 2008	() kits																								
FY 2009	() kits																								
To Com	olete () kit	s																							
TOTAL																									
Installatio		le																				1			
	FY 2001		FY 20		١.		FY 2					2004				2005		<u> </u>	1	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In			<u> </u>		-		-												-						
Out				<u> </u>	<u> </u>																	j			
		FY 200	07			FV	2008			FV ·	2009			То			Ì								
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	T	OTAL									
In														18		18									
Out														18		18									

Exhibit P-3	Ва																							
MODELS (OF SYSTE	EMS AFF	ECTE	P-3C						MODII	FICAT	ION TI	ITLE:	Critica	al Sys	stems Im	prover	ment (0	OSIP	53-85)	Digital	Autop	ilot	
INSTALLA	TION INFO	ORMATIO	ON:																					
METHOD	OF IMPLE	MENTA	ΓΙΟN:	Contra	actor F	ield Mo	od Tea	am																
ADMINIST	RATIVE L	.EADTIM	E:		5	5 M	lonths	<u>.</u>			PROI	DUCTI	ON L	EADT	IME:	8	N	/lonths	-					
CONTRAC	CT DATES	:	F	Y 2002:	12/0	2 FY	2003:	12/03	FY	2004:		FY 2	2005:		_									
DELIVERY	/ DATE:		F	Y 2002:	: 8/03	FY	2003:	8/04	FY_	2004:		FY 2	2005:		_									
													(\$ ir	n Million	ns)									
	Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	F١	2007	FY:	2008	FY	2009	To Cor	mplete	тс	DTAL
			Qty		Qty	1	Qty		Qty		Qty	\$	Qty		Qty		Qty	\$	Qty		Qty	\$	Qty	
EV 200:	1 & PY () k	rite	۵.,	<u> </u>	۵.,	<u> </u>	۵.,		α.,	<u> </u>	α.,		α.,		α.,	<u> </u>	α.,	<u> </u>	α.,	<u> </u>	Ψ.,		ς.,	_
	2 (1) kits	allo .			*	.2	1	*																
	3 (4) kits						**	.1	4	**														
FY 2004																								
FY 200																								
FY 2006																								
FY 200																								
FY 2008																								
FY 2009																								
	plete () kit	:S																						
TOTAL						.2	1	.1	4	**														
* FY03 C	congressionation congressionation on Schedul	al Add fur																						
	FY 2001		FY 2	2002			FY 2	2003			FY 2	004			FY	2005			FY	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In									1				4											
Out									1				4											
				1	1		·	1									_			<u> </u>		J		
		FY 200					2008				2009		-	То										
	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	T	OTAL	1							
In															<u> </u>	5	1							
Out																5]							

Exhibit P-3a	ı																							
MODELS O	F SYSTEM	IS AFFE	CTED:	P-3C					ı	MODIF	FICAT	ION T	ITLE:	Critica	al Sys	tems Ir	nprove	ment P	rograr	n (OSIP	53-85) Struc	ctural [Data R
INSTALLAT	ION INFO	RMATION	N:																					
METHOD O	F IMPLEN	IENTATIO	ON:																					
ADMINISTR	ATIVE LE	ADTIME:				М	onths				PRO	DUCT	ION L	.EADT	IME:			Months	<u>.</u>					
CONTRACT	DATES:			FY 2	2002:			FY	2003:			FY 2	2004:			FY	2005:							
DELIVERY	DATE:																							
JEEN EIKT	D/ (1 L.				-002.		-		2000.		=			/lillions			2000.		=					
	Cost:		Prior \	Years	FY	2002	FY	2003	FY	2004	FY:	2005	Ì			2007	FY	2008	FY	2009	То Со	mplete	TC	OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (4) k	its			4	.1																		
FY 2002	() kits																							
FY 2003	() kits																							
FY 2004	() kits																							
FY 2005																								
FY 2006																								
FY 2007																								
FY 2008 FY 2009																								
	lete () kits																							
TOTAL	()				4	.1																		
	our (4) pre		rocured	SDRS	kits a	are be	ing in:	stalled	l in FY	′02 du	e to a	ircraft	availa	ability.										
	FY 2001		FY 2002	2			FY	2003			FY 2	2004			FY 2	005			FY	2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ln o :			2																					
Out				2																		J		
		FY 200)7	1		FY:	2008				2009		-	Го										
	1	2	3	4	1	2	3	4	1	2	3	4	Con	plete	TC	OTAL	-							
In Out																2								
Out					I				<u> </u>				<u> </u>			2	J							

chibit P-3a INDIVIDUAL MODIFICATION	
ODIFICATION TITLE: Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 60-86)	
ODELS OF SYSTEM AFFECTED: P-3A/B/C & 4 Special Projects TYPE MODIFICATION: Readiness	
ESCRIPTION/JUSTIFICATION:	
P-3 aircraft have an operational requirement for UHF satellite communications (SATCOM) and currently have satellite capable communications suites. JCS Memo CJCSI 6251.01 OF 31 July 1996 modified SATCOM access to require Advanced Narrowband Digital Voice Terminal (ANDVT) and Demand Assigned Mulitple Access (DAMA) standards by 30 September 1996. In addition, the ARC-101 VHF radio does not have a 25KHz channel capability and does not comply with Air Traffic Control regulations and represents a potential safety of flight issue. The older UHF and VHF (ARC-143 and ARC-101) radios suffer from considerable degraded performance because of crosstalk sensitivity, lack of channel selectivity, intermodulation and are not compatible with the JCS satellite access requirements. The ARC-182 is the Navy's standard VHF radio and corrects the VHF deficiencies. The ARC-182 is currently installed in 129 of the 203 P-3C's covered in the OSIP. The ARC-187 is currently installed in 162 of the 203 P-3C's covered in this OSIP. In FY 1993, Vinson Baseband kits were procured to provide succinct channel identification for the ARC-187 radios currently installed in P-3 aircraft.	
The FY 1994 and subsequent programs will bring all 228 P-3C aircraft to a common radio configuration which meets all requirements for SATCOM and Havequick. All 228 P-3C aircraft will receive the ANDVT/SATCOM (CIP) installation. Additionally, 74 P-3C aircraft will have the ARC-182 radio installed in conjunction with CIP and 41 aircraft will have the ARC-187 radio (2 per A/C) installed in conjunction with CIP. Some of the ARC-182 and/or ARC-187 installations may occur as stand-alone to meet fleet requirements.	
P-3C Communications Improvement Program (CIP) Engineering Change Proposal (ECP) Lockheed 1025: This ECP covers the installation of the kit and equipment necessary for DAMA SATCOM which includes the AN/ARC-187/VIASAT Modem combination, modified ARC-187 Controls and Advanced Narrowband Digital Voice Terminal (ANDVT). In aircraft that presently do not have an ARC-187 UHF and/or ARC-182 VHF radios installed ,ECP 988 (UHF) and/or ECP 990 (VHF) will be installed in conjunction with ECP 1025 or through stand-alone installations.	
EVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:	
The ARC-182 and ARC-187 radios have Approval for Full Production (AFP) and are verified in the P-3 aircraft. ECP 1025 (CIP) was approved in January 1997. DAMA SATCOM certification for the ARC-187/Viasat Modem combination was received in March 1998. Production installations began in February 1999.	
Exhi	ibit P-3a

Exhibit P-3a	INDIVIDI	JAL MODIFICATION	
MODIFICATION TITLE:	Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 6	0-86)	
MODELS OF SYSTEM AFFE	CTED: B-2A/B/C & 4 Special Projects	TVPE MODIFICATION: Poodings	

	Prior	Years	FY 2	2002	FY 2	2003	FY	2004	FY 2	2005	FY 2	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TC	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC(P-3C)ARC-182	161	3.3	5	.1																		
AFC(P-3C)ARC-187	181	2.6	5	.1																		<u> </u>
AFC(P-3A/B)ARC-182	11	.3																				<u> </u>
AFC(P-3C)UHF/VHF UPGRADE	26	.3																				<u> </u>
AFC(P-3C)KG-84	143	2.6																				
AFC(P-3C)SATCOM COMPATIBILITY	141	1.6																				<u> </u>
AFC(P-3C)VINSON BASEBAND	378	2.2																				
AFC(P-3C)CIP(ANDVT/DAMA)	88	2.3			20	1.2																
Installation Kits N/R		27.3		.2																		
Installation Equipment																						l
ARC-187 (2 per A/C)	364	18.2	10	.8																		
ARC-210	10	.4																				
ARC-182**	172	4.2	7	*																		
ARC-187 Control (2 per A/C)	194	2.8			40	.8																
CRYPTO Fill Port (2 per A/C)	208	.3			40	.1																
Interface Adapter Assembly (IAA)	91	.4			20	.1																
Diplexer	91	.4			20	.1																l
Modem (1 per A/C)	106	4.0			11	.3																
ANDVT	91	***		***	20	***																
Installation Equipment N/R		2.7																				
Engineering Change Orders																						
Data		6.2				.2																
Training Equipment	66	3.7	2	*																		
Support Equipment		2.3																			1 7	
ILS		1.6		.2		.3																
Other Support		11.9		2.7		1.2																
Interim Contractor Support																						
Installation Cost	1,067	8.8	29	.9	79	2.1																
TOTAL PROCUREMENT	2,522	110.4	29	5.0	171	6.4																

Notes:

^{1.} Totals do not add due to rounding

^{**} AN/ARC-182 radios to be obtained from F/A18 or other aircraft installing AN/ARC-210 radios.

^{2.} Asterick indicates amount less than 51K

^{***} ANDVT provided by NSA. **** Included in Prototype A-Kit cost.

Exhibit P-3a MODELS OF SY	YSTEMS AFFE	CTED:		P-3A/B	s/C					N	/ODIFIC	CATION	TITLE:	Ultra H	igh Fred	quency (U	HF)/Ver	y High I	Frequen	cy (VHI	F) Comn	nunicatio	ns Upo	late (O
INSTALLATION	INFORMATIO	N:								•														
METHOD OF IM	MPLEMENTATI	ON:		P-3A/B	/C & 4 \$	Special	Projects	3																
ADMINISTRATI					6		Months				PRODI	ICTION	NI FAD	IME.		12		Months						
			_					-											_					
CONTRACT DA	ITES:		F.	Y 2002:	3/02	-	F	Y 2003:	3/03	•	F	Y 2004:		•		FY 2005:		-						
DELIVERY DAT	E:		F,	Y 2002:	3/03	-	F	Y 2003:	3/04		F	Y 2004:		<u>-</u> ,		FY 2005:								
											((\$ in Mil	lions)											
	Cost:		Prior	Years	FY:	2002	FY 2	2003	FY:	2004	FY:	2005	FY:	2006	FY	2007	FY:	2008	FY:	2009	To Co	omplete	TC	DTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & P			1,067	8.8	29	.9	44	1.2		**														
FY 2002 (10)							1	.1	9	**														
FY 2003 (20)								.7	20	**														
FY 2004 () ki																								
FY 2006 () ki																								
FY 2007 () ki																								
FY 2008 () ki																								
FY 2009 () ki																								
To Complete	(155) kits																							
TOTAL			1,067	8.8	29	.9	45	2.1	34	**														
** FY03 funds	installs in FY04	1.																						
Installation Sc	hedule																							
	FY 2001		FY 200	2			FY 2	2003			FY:	2004			FY	2005			FY:	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In	1067		9	10	10		15	15	15		12	12	10											
Out	1067		9	10	10		15	15	15		12	12	10											
j		FY 2007				FY	2008			FY:	2009		Т	o			1							
	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	TC	DTAL								
In													1:	55	1	330	1							
Out													1:	55	1	330								

Exhibit P-3a	INDIVIDUAL MODIFICATION	
MODIFICATION TITLE Global Positioning System (GPS) (OSIP 28-92)		
MODELS OF SYSTEM AFFECTED: P-3C, SPECIAL PROJECTS	TYPE MODIFICATION Mandated	
DESCRIPTION/ ILISTIFICATION:		

The NAVSTAR Global Positioning System (GPS) is a space-based radio positioning and navigation system that will provide three dimensional position, velocity, and time information to suitably equipped users worldwide in all weather conditions. The GPS equipment consists of a receiver/processor, interface unit, fixed and controlled pattern antennas, and a control display unit. The GPS will provide highly improved navigation accuracy, enhancing mission effectiveness in all areas. Congress has mandated that GPS be installed by FY00. This modification affects 228 P-3C aircraft (173 active and 49 reserve), and 6 Special Projects aircraft.

GPS Engineering Change Proposal (ECP) NADEP JAX 187: This ECP covers the installation of the GPS kit and equipment. Spawar provides the ARN-151 GPS Receiver, the AE-4 Antenna system, the 1553 data bus and 3 Control Display Navigation Units (CDNUs) as GFE.

ELECTRONIC FLIGHT DISPLAY SYSTEM (EFDS) ECP NADEP JAX 187R5/491: This ECP replaces the existing pilot and copilot analog Flight Director Indicator (FDI) and Horizontal Situation Indicator (HSI) and Navigator/Communicator HSI with Electronic FDIs (EFDI) and Electronic HSIs (EHSI). The Electronic flight instruments are being installed to correct an interoperablity deficiency discovered during

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NAVSTAR GPS program received approval for limited production (ALP) in June 1986 and received Approval for Full Production (AFP) in January 1992. Developmental testing (DT-III) of the GPS installation in a P-3C was completed in June 1992. Follow-on Test and Evaluation (OT-III) was completed in January 1994. GPS is presently in full production and will complete installations in FY02.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TC	DTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPS Airframe Kit	228	7.1																				
EFDS Airframe Kit	60	3.5																				
GPS/Maverick Mod Kit	4	.1																				
Installation Kits N/R		.9																				
Installation Equipment																						
LTN-72	2	1.9																				
EFDS EHSIEFDI	327	5.4																				
EFDS Controls	196	.4																				
ASM	218	1.8																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.2																				
Training Equipment		3.3																				
Support Equipment																						
ILS		.5																				
Other Support		4.7																				
Interim Contractor Support																						
Installation Cost	227	10.1	1	.5																•		
TOTAL PROCUREMENT	1,035	40.0		.5																		

Notes:

- 1. Totals do not add due to rounding.
- 2. Asterisk indicates amount less than 51K

Exhibit P-3a																									
MODELS OF	SYSTEM	S AFFE	CTED:	P-3C, S	PECI	AL PRO	JECTS	3		МО	DIFIC/	ATION ⁻	TITLE:	Global	Positio	ning Sys	stem (C	SIP 28	-92) GI	PS Inst	allations	S			
INSTALLATIO	ON INFOR	MATIOI	N:																						
METHOD OF	IMPLEME	NTATI	ON:	NADEP	' Jax F	ield Tea	am/Cor	ntractor	Field 7	Геат															
ADMINISTRA	TIVE LEA	DTIME:			- 5		Months				PROE	DUCTIC	ON LEA	DTIME		8		Months							
		D						-											•						
CONTRACT	DATES:		F	Y 2002:		-	F.	Y 2003:	-		۱,	Y 2004:	-	-	1	FY 2005:									
DELIVERY D	ATE:		F	Y 2002:		_	F`	Y 2003:	:	_	F	Y 2004:	:	_		FY 2005:									
						(\$ in Mi	illions)																		
	Cost:		Prior	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	Т	TOTAL	ı
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	i
FY 2001 &	PY (228)	kits	227	6.7	1	.1		<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>		<u> </u>			<u> </u>		<u> </u>	ļ	igsquare			ı
FY 2002 ()					—		_	<u> </u>	₽	<u> </u>		<u> </u>	<u> </u>		<u> </u>			<u> </u>	igsquare	<u> </u>	<u> </u>	igwdown			i
FY 2003 ()					—		<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>		<u> </u>			—	igsquare	 	<u> </u>	igwdapprox			i
FY 2004 ()					ऻ		—	<u> </u>	₩	<u> </u>		<u> </u>	-		-			 	\vdash	 	-	$\vdash \vdash \vdash$			i
FY 2005 ()					├		_		 				 		 			\vdash	$\vdash \vdash$	 	<u> </u>	$\vdash \vdash \vdash$			i
FY 2006 ()					├	_	╁	 	₩	 		 	┢	 	 			\vdash	\vdash	 	┢	$\vdash\vdash\vdash$			i
FY 2007 ()					┢		1		 				 		1			 		 	 				i
FY 2009 ()					┢				1									<u> </u>			-	$\vdash \vdash$			i
To Comple									1																i
TOTAL	V		227	6.7	1	.1			t						İ										ı
			•	•					-				-								-				
Installation	Schedule																								
I					—					_								_			—	í			
	FY 2001 & Prior	1	FY 2	3	4	1	FY 2	2003	4	1	FY 2	2004	4	1	2	2005 3	4	1	FY 2	2006 3	4				
In	227		1	3		Ė				Ė				<u> </u>		3	4	Ė			+				
Out	227		<u> </u>	1					+				+									l			
1					=				一				一				1					ı			
	. 1	FY 20	1 1	l .	-	1	2008		₽		2009	г.	1	То											
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	1	OTAL									
In Out					┢				-							228 228									
Jui				l	Щ_		Ь	Ь	Щ	Ь	Щ	Ь	Щ		Щ.	220	ı								

Exhibit P-3a																									
MODELS OF	SYSTEM	IS AFFE	CTED:	P-3C, S	SPECI/	AL PRO	JECTS	6		МО	DIFIC	ATION '	TITLE:	Global	Positio	ning Sys	stem (C	SIP 28	-92) E	FDS In	stallatio	ns			
INSTALLATIO	ON INFOR	RMATIO	N:																						
METHOD OF	IMPLEM	ENTATI	ON:	NADEP	Jax F	ield Tea	am/Cor	ntractor	Field 7	eam															
ADMINISTRA	TIVE LEA	ADTIME	:		5		Months				PROD	UCTIC	ON LEA	DTIME	:	6		Months							
CONTRACT	DATES:		-	× 2002.			F	v 2003.			E,	√ 200 4 ∙				FY 2005:			•						
																		•							
DELIVERY D	ATE:		F	Y 2002:		-	F	Y 2003:		•	F	Y 2004:				FY 2005:		-							
						(\$ in Mi	illions)																		
	Cost:		Prior	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	omplete	Т	TOTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8	PY (60) I	kits	53	3.4	7	.4																			
FY 2002 ()	kits		1																		1				
FY 2003 ()																									
FY 2004 ()			-																		-				
FY 2005 ()			1																		1				
FY 2006 ()																									
FY 2007 ()																									
FY 2008 ()																									
To Comple																									
TOTAL	oto () itito		53	3.4	7	.4																			
				-				l									1								
Installation	Cahadula																								
motaliation																									
	FY 2001	<u> </u>		2002				2003		_		2004		_		2005		<u> </u>		2006	1 .				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In Out	53	2	2	1	2																				
Out	53		1 4	1	2								l								1				
		FY 2	007			FY:	2008			FY:	2009		-	Го											
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	TO	OTAL									
In																60									
Out																60	J								

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE Sustained Readiness Program (SRP) (OSIP 10-94)	
MODELS OF SYSTEM AFFECTED: P-3C	TYPE MODIFICATION Sustainment

DESCRIPTION/JUSTIFICATION:

The Sustained Readiness Program, encompassing AFC 578, is an Operational Service Life Extension Program which will extend the operational service life of P-3C from present 30 years to the aircraft's fatigue life (approximately 38 years) by preemptively replacing airframe components and systems identified as having impact on future aircraft availability due to safety, structural performance, and component unsupportability. This will allow full realization of the aircrafts designed service life but will not extend the fatigue life of those aircraft. If left unchecked, these problem areas collectively will result in significant loss of aircraft from the operational inventory due to operational and support funding limitations. To ensure future aircraft safety and supportability, this procurement investment includes a number of cost-effective modifications to a number of systems which are among the principle maintenance degraders on the aircraft. Supportability items include modification to the environmental control system, and the fuel quantity system. The SRP was restructured 31 March 00 and will deliver 50 Kits, tooling, and 13 SRP installs. The remaining 19 will receive Selected SRP Mod Kits installed under a seperate contract. An SRP upgraded aircraft was delivered 3rd qtr FY99 to act as the fatigue test article for the Service Life Assessment Program. The validating SRP Operational Requirements Document is ORD ser #339-88-93.

This OSIP includes \$2.0M in Defense Emergency Response Funding (DERF) for aircraft #17 core effort and over and above labor.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Competitive bid contract awarded 19 September 1994. Contract was restructured 31 March 00; delivers 50 kits, 13 SRP Installs and tooling. The remaining 19 aircraft are receiving Selected SRP Mod Kits installed via a coawarded contract dated 13 June 2000.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	ТО	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AFC Kit-SRP	41	52.6																				
AFC Kit-SRP Option	9	13.3																				
Cond Kits		35.8																				
Sel. SRP Mod Kit Material		1.6																				
Installation Kits N/R		31.4																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		4.6																				
Training Equipment		.2																				
Support Equipment		1.6																				
ILS		2.6																				
Other Support		39.8																				
Interim Contractor Support																						
Installation Cost	31	139.6	1	2.6																		
TOTAL PROCUREMENT	50	323.1		2.6																		

Notes:

- 1. Totals do not add due to rounding
- 3. \$2M of the FY 2002 program is DERF.
- 2. Asterick indicates amount less than 51K

Exhibit P-3a																								
MODELS OF	SYSTEM	S AFFE	CTED:	P-3C						МС	DIFIC	ATION	TITLE:	Sustair	ned Re	adiness l	Prograi	m (SRP) (OSII	P 10-94	.)			
INSTALLATI	ON INFOR	MATION	۷:																					
METHOD OF	FIMPLEME	ENTATIC	ON:	Installa	tion wi	l be acc	complis	shed by	contra	ctor mod	d teams	S.												
ADMINISTR.	ATIVE LEA	DTIME:			1	N	Months	_			PROD	DUCTIO	N LEA	DTIME:		N/A		Months	_					
CONTRACT	DATES:		F	Y 2002:		FY	2003:		F	Y 2004:		FY	2005:		_									
DELIVERY D	DATE:		F	Y 2002:		FY	2003:		F	Y 2004:		FY	2005:											
												-	(\$ in	Millions)									
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	ТО	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (32) k	cits	31	139.6	1	2.6																		
FY 2002	() kits																							
FY 2003	() kits																							
FY 2004	() kits																							
FY 2005	() kits																							
FY 2006	() kits																							
FY 2007	() kits																							
FY 2008	() kits																							
FY 2009	() kits																							
To Comp	lete () kits												<u> </u>											
TOTAL			31	_		2.6																		
NOTE: FY	'02 funding	provide	s core l	kit instal	lation f	or aircra	aft #17	and ove	er & ab	ove for a	aircraft	s #12-1	7.											
Installation	Schedule																							
	EV 2004		FY 2	000			ΓV	2003			EV.	2004			ΓV	2005			EV.	2000				
	FY 2001 & Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	2005	4	1	2	2006	4			
In	31	'	1	3	-	•			1					<u> </u>		<u> </u>	1	<u> </u>		3				
Out	21	3	3	3	2																	l		
				•													1		1			ı		
	ļ	FY 20	1	1			2008				2009	ı	1	То										
	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	TO	OTAL	-							
In -			-													32								
Out																32	J							

Exhibit P-3a		INDIVIDUAL MODIFICATION
MODIFICATION TITLE: Anti-Surface Wa	rfare (ASUW) Improvement Program (OSIP 29-94)	
MODELS OF SYSTEM AFFECTED:	P-3C	TYPE MODIFICATION Operational Improvement
DESCRIPTION/JUSTIFICATION:		

The Navy's Maritime Patrol and Reconnaissance Force (primarily P-3C Orion aircraft) provides three deliverables to Navy and joint commanders worldwide: Undersea warfare; Intelligence Surveillance, and Reconnaissance; and Maritime Strike Targeting. The ASUW Improvement Program meets the Navy's requirement to rapidly provide a significant increase in the current P-3's ability to perform Anti-Surface Warfare (ASUW), Over-the-Horizon Targeting (OTH-T), and Command, Control, Communications, Computers, and Intelligence (C4I). The target aircraft for this modification are P-3C Update II/II.5 and Update III. This modification focuses on improving the weapon system's capability for standoff targeting and classification. Significant sensor improvements and capabilities are provided by the APS-137D (V) 5 imaging radar, the Advanced Imaging Multi-Spectral Sensor (AIMS) electro optical/infrared system, and ESM upgrades that include Specific Emitter Identification (SEI), SEI Utility Improvement, ALR-95, improved pulse processing, and DF accuracy. C4I is improved with a DAMA Satcom radio suite and Multi-mission Advanced Tactical Terminal (MATT) that can receive the Officer in Tactical Command Information Exchange System (OTCIXS), and other fleet broadcasts. Additional planned Phased Capability Upgrade (PCU) improvements include the Maritime Strike Targeting (MST) capability as well as Tactical Common Data Link (TCDL). Survivability enhancements include the ALE-47/AAR-47 missile warping countermeasures, explosive suppressant foam, and small circular area of probability weapon system (Maverick, SLAM, SLAM-ER, and provisions to carry and launch all Mil Std 1760 Digital weapons such as JSOW. Additional funding in FY1995 and FY1996 was utilized to meet an urgent fleet requirement to upgrade 17 Pre-AIP aircraft with Maverick armament control kits. The P3 AIP

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification makes maximum use of previously developed subsystems.

FINANCIAL PLAN (TOA, \$ in Millions):

·	Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	TC	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (H-2417)		9.4																				
PROCUREMENT																						
Installation Kits																						
AFC A Kit	56	63.5	6	6.3	5	5.7	2	3.2	4	5.0												
AFC B Kit		207.8		27.3		27.1		14.7		23.5												
Pre-AIP Armament Kit	17	12.9																				
Installation Kits N/R		30.3				6.1		.2		.4												
Installation Equipment																						
GFE Sensors and Avionics		199.5		34.4		32.5		13.8		29.0												
Advanced IRDS		4.0																				
Phased Capability Upgrades (M	IST)					1.0		.5		.7												
Installation Equipment N/R		24.3		16.4		15.0		1.1		.9												
Engineering Change Orders		13.3		4.3		5.0		.5														
Data		14.1		.6		1.0		1.5		1.3												
Training Equipment		41.5		9.0		5.4		1.9		1.0												
Support Equipment		11.1				.4		.5		.3												
ILS		11.1		1.1		1.7		.5		.3												
Other Support		83.8		13.4		10.7		6.1		8.5												
Interim Contractor Support																						
Installation Cost	51	63.3	7	15.8	5	15.1	4	13.6	2	10.6		, and the second								, and the second		
TOTAL PROCUREMENT	73	780.5	6	128.5	5	126.8	2	58.1	4	81.4												

Notes:

- 1. Totals do not add due to rounding
- 2. Asterick indicates amount less than 51K

Exhibit P-3a																						
MODELS OF SYSTEMS AFFECTE	D:	P-3C						МО	DIFICA	TION T	ΓITLE:	Anti-Sı	urface '	Warfare	(ASUW	/) Impro	ovemer	nt Progr	am (C	SIP 29-	94)	
INSTALLATION INFORMATION:																						
METHOD OF IMPLEMENTATION:		Installation	on thro	ugh FY	98 fun	ded turr	n-kev o	neratio	n Inst	allation	for FY	99 and	out ve	ars fund	ed in the	e vear ti	hev oc	rur				
		motanati	011 11110	ugii i	00 1011	aca tan	i koy o	poration		anation	10111	oo ana	out you	aro rana	ou iii uii	o your ti	noy oo	Jui.				
ADMINISTRATIVE LEADTIME:			1	M	lonths				PROD	UCTIC	N LEA	ADTIME		16		Months	<u> </u>					
CONTRACT DATES:		FY	2002:	10/01		FY	2003:	10/02	-	FY	2004:	10/03	_	F	Y 2005:	10/04	_					
DELIVERY DATE:		FY 2002: <u>2/03</u> FY 2003: <u>2/04</u> FY 2004: <u>2/05</u> FY 2005: <u>2/06</u> (\$ in Millions)																				
	(\$ in Millions)																					
Cost:	Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY:	2008	FY	2009	To C	omplete	TO	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY (56) kits	51	63.3	5	11.4																		
FY 2002 (6) kits **			**	4.4	4	11.6	2	**														
FY 2003 (5) kits***					***	3.5	4	13.6	1	***												
FY 2004 (2) kits									2	10.6												
FY 2005 (4) kits																						
FY 2006 (7) kits																						
FY 2007 (4) kits																						
FY 2008 () kits																						
FY 2009 () kits																						
To Complete (60) kits																						

Installation Schedule

	FY 2001		FY 20	002			FY 2	2003			FY 2	2004			FY	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	51		1	2	2		1	1	2	1	1	2	2		1	1	1				
Out	43	3	2	2	2	2	2	1	1	2	1	1	2	2		1	1				

		FY 200	7			FY 2	2008			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In													75	144
Out													76	144

Exhibit P	-3a																							
MODELS	OF SYSTE	MS AFFEC	CTED:	P-3 S	pecia	al Proje	ects		N	ODIF	ICATI	ON TI	ITLE:	Additi	onal .	Aircraft :	#1							
INSTALL	ATION INFO	ORMATION	۷:																					
METHO	OF IMPLE	MENTATIC	ON:	Depo	t Leve	el Mod	ification	on																
ADMINIS	STRATIVE L	.EADTIME:			9	Month	5				PRO	DUC	ΓΙΟΝ	LEAD [*]	TIME	6	1	Months						
								-											-					
CONTRA	ACT DATES	:	FY	2002:		-	FY	2003:		•	FY	2004:		•	F	Y 2005:		•						
DELIVER	RY DATE:		FY	2002:		-	FY	2003:		-	FY	2004:		(\$ in		Y 2005: ns)								
	Cost:		Prior `	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY			2007	FY 2	2008	FY:	2009	To Co	omplete	e TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 20	01 & PY (1)	kits	1	11.5																				
FY 20	02 () kits																							
FY 20	03 () kits																							
FY 20	04 () kits																							
FY 20	05 () kits																							
FY 20	06 () kits																							
FY 20	07 () kits																							
	08 () kits																							
	09 () kits																							
	mplete () kit	S																						
TOTA	L		1	11.5																				
Installa	tion Schedul	e																						
	FY 2001		FY 200	2			FY 2	2003			FY 2	2004			F١	2005			FY 2	006				
_	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	1																							
Out							1																	
		FY 2007				FY '	2008			FY	2009		Γ-	Го										
	1	2	3	4	1	2	3	4	1	2	3	4	4	nplete	Т	OTAL								
In																1								
Out																1								

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITL ADDITIONAL AIR	RCRAFT #1 (OSIP 34-99)		
MODELS OF SYSTEM AFFECTED:	P-3 Special Projects	TYPE MODIFICATIC Investment	

This requirement is to provide an additional special project aircraft that can be used to maintain force structure while other mission aircraft are being replaced or upgraded.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The current inventory is four mission aircraft. Periods of maintenance and major modifications typically reduced inventory to three or less available for CINC's tasking. This additional fifth mission aircraft would allow for four aircraft to be available for CINC tasking at all times. Special Projects aircraft are directly tasked by JCS, opeating as a Low-Density High-Demand asset under Global Military Force Policy. An additional special project mission aircraft is the number 2 priority of the FY99 Special Projects Operational Advisory Board.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY 20	300	FY 2	2009	To Co	mplet	Т	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	1	3.5																				
Installation Kits N/R		3.1																				
Installation Equipment	1	21.6																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		1.3																				
Interim Contractor Support																						
Installation Cost	1	11.5								·												·
TOTAL PROCUREMENT	2	41.0																				

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 51K

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLADDITIONAL AIRCRAFT #2 (OSIP 22-00)	
MODELS OF SYSTEM AFFECTED: P-3 Special Projects	TYPE MODIFICATIC Investment
DESCRIPTION/HISTIFICATION:	

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The current inventory is four mission aircraft. Periods of maintenance and major modifications typically reduced inventory to three or less available for CINC's tasking. This additional sixth mission aircraft would allow for four aircraft to be available for CINC tasking at all times. Special Projects aircraft are directly tasked by JCS, opeating as a Low-Density High-Demand asset under Global Military Force Policy. An additional special project mission aircraft was the number 2 priority of the FY99 Special Projects Operational Advisory Board.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior `	Years	FY	2002	FY	2003	FY 2	2004	FY	2005	FY:	2006	FY:	2007	FY 20	300	FY 2	2009	To Co	mplete	Т	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	1	4.0																				
Installation Kits N/R																						
Installation Equipment	1	32.1																				
Installation Equipment N/R																						
Engineering Change Orders	S																					
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		1.8																				
Interim Contractor Support																						
Installation Cost	1	10.2				·																
TOTAL PROCUREMENT	2	48.1																				

Notes:

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 51K

Exhibit P	-3a																							
MODELS	OF SYSTE	MS AFFE	CTED:	P-3 S	Specia	al Proje	ects		N	ODIF	ICATI	ION T	ITLE:	Additi	ional	Aircraft #	#2							
INSTALL	ATION INFO	ORMATION	N:																					
METHO	OF IMPLE	MENTATIO	ON:	Depo	t Leve	el Mod	ificatio	on																
ADMINIS	TRATIVE L	EADTIME:			9	Month	٤	_			PRC	DUC	TION	LEAD	TIME	9		Months	_					
CONTRA	CT DATES:	:	FY	2002:		=	FY	2003:		_	FY	2004:		=	F	Y 2005:		=						
DELIVER	RY DATE:		FY	2002:		_	FY	2003:		_	FY	2004:		_	F	Y 2005:		_						
														(\$ in	Millio	ns)								
	Cost:		Prior `	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY 2	2008	FY	2009	To Co	omplete	ТО	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 20	01 & PY (1)	kits	1	10.2																				
FY 20	01 () kits																							
FY 20	02 () kits							<u> </u>																
FY 20	03 () kits							<u> </u>																
FY 20	04 () kits							Ь																
FY 20	05 () kits							<u> </u>																
FY 20	06 () kits							<u> </u>																
FY 20	07() kits						-																	
	08() kits							<u> </u>																
	09() kits						-	-					-											
	mplete () kit	S			-		-	 	-		-		-											
TOTA	L		1	10.2																				
Installa	ion Schedul	e																						
	FY 2001		FY 200	2			FY 2	2003			FY 2	2004			F١	2005			FY 2	006				
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ln	1																							
Out								<u> </u>	1															
		FY 2007	,			EV.	2008			EV :	2009		Ι.	То	I		Ī							
	1	2	3	4	1	2	3	4	1	2	3	4	-	nplete	т	OTAL								
In							İ							•		1								
Out																1								
																	-							

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE: Communications Navigation Surveillance/Air Traffic Management (OSIP 13-01)	
MODELS OF SYSTEM AFFECTED: P.3C/EP.3/Derivatives	TYPE MODIFIC ATION: Operational Improvement/Safety

P-3C aircraft have a requirement for a Communications, Navigation and Surveillance/Global Air Traffic Management (CNS/ATM) upgrades to meet expanding CNS/ATM requirements and ensure global access to commercial airspace. The CNS/ATM requirements consist of various avionics systems upgrades/replacements which currently include; VHF radio with 8.33 kHz channel spacing and VHF data link (VDL), IFF (Mode S and Mode 5), traffic alert and collision avoidance system (TCAS), protected ILS/VOR with FM Immunity, and an upgraded GPS to provide increased navigation accuracy (RNP5, BRNAV, RVSM). Successful integration of any or all of these capabilities, and any future Federal Aviation Administration (FAA) or International Civil Aviation Organization (ICAO) mandates, requires a Flight Management System (FMS) which provides for growth and interface flexibility. This OSIP provides non-recurring engineering for the development of the CNS/ATM architecture for the P-3 aircraft which includes a FMS, air data computer (ADC) and an Electronic Flight Display Systems (EFDS). This modification program provides CNS/ATM upgrades for 203 P-3C aircraft, and 18 Derivative aircraft.

P-3C CNS/ATM Engineering Change Proposal (ECP) TBD: There is presently no specific ECP associated with the CNS/ATM architecture design and development.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The CNS/ATM architecture development in FY-01 and FY-02 is funded by Congressional Plus-ups. A FY-03 CNS/ATM Congressional Plus-up provides for EP-3 CNS/ATM prototype. MMR procurements in FY-02 and FY-03 are funded by Congressional Plus-ups.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TC	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
FMS/CDU			1	.2	1	.2	2	.1	18	1.1												
8.33kHz VHF Radio					10	*	18	*		****												
Digital ADC			1	*	1	*	2	*	18	.4												
MMR (P-ILS)	14	.1	25	.1	21	.1	15	.1		****												
CXP (IFF/MODE S)			1	*	1	*	2	***		****												
EFDS	60	**	6	.4	6	.4	18	1.2	18	1.3												
Installation Kits N/R		2.5		3.1		4.2																
Installation Equipment																						
FMS/CDU			2	.2	2	.2	4	.8	38	3.4												
8.33kHz VHF Radio					10	.4	18	.8		****												
Digital ADC			1	*	1	*	2	.1	19	.9												
MMR (P-ILS)	28	1.3	50	1.9	42	1.8	30	1.4		****												
CXP (IFF/MODE S)			1	*	1	.1	2	.1 ***		****												
RINU-G (RNP 4/5)					2	*	4	.1 ***		****												
EFDS	60	**	6	.7	6	.8	18	2.4	19	2.6												
Installation Equipment N/R						4.2																
Engineering Change Orders																						
Data						.2		.9		.5												
Training Equipment									2	1.1												
Support Equipment																						
ILS				.2		.7		.2		.2												
Other Support		1.2		1.5		2.3		1.1		1.1												
Interim Contractor Support																						
Installation Cost		**	1	.2	1	.6		.4	2	1.5												
TOTAL PROCUREMENT	162	5.1	94	8.6	104	16.3	135	9.7	132	14.1												

Notoo

** 60 EFDS funded under GPS OSIP 28-92

1. Totals do not add due to rounding

*** CXP and RINU-G funding in FY04 is for prototypes.

2. Asterisk indicates amount less than 51K

**** Beginning in FY-04, PMA-209 will fund NRE, Kits, equipment and installs for 8.33kHz VHF radio, CPX, MMR and RINU-G.

Exhibit P-3a																						
MODELS OF SYSTEMS AFFE	ECTED:	P-3C/	/EP-3/	Deriva	itives				M	ODIF	ICATI	ON T	ITLE:	CNS/	ATM	(OSIP 1	3-01)	Archite	ecture			
NSTALLATION INFORMATIO	N:																					
METHOD OF IMPLEMENTAT	ION:			Contr	actor	Field	Team															
ADMINISTRATIVE LEADTIME	i:			9		Months	S	- 0			PRO	DUC	ΓΙΟΝ	LEAD	TIME	8		Months	<u> </u>			
CONTRACT DATES:	FY	2002:	6/02	_	FY	2003:		_	FY	2004:	6/04		FY	2005:	6/05							
DELIVERY DATE:	FY	2002:	2/03	_	FY	2003:		•	FY	2004:	2/05		FY	2005:								
Cost:	Prior `	Voore	EV	2002	EV	2003	EV	2004	EV	2005	EV	2006	ΕV	(\$ in 2007	Millio	ns) 2008	EV 1	2000	To Co	mplet	Τſ	OTAL
COSt.	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty		Qty		Qty		Qty	\$	Qty	\$	Qty	\$	Qty	1
FY 2001 & PY () kits																· ·						
FY 2002 (1) kits			**	.2	1	**																
FY 2003 (1) kits					***	.2	1	***														
FY 2004 (2) kits									2	.2												
FY 2005 (18) kits																						
FY 2006 (12) kits																						
FY 2007 (15) kits																						
FY 2008 (15) kits																						
FY 2009 (16) kits																						
To Complete (157) kits																						
TOTAL	1	1		1 -		_		***		_	I		I .									

Prototype NRE, prototype kit and prototype installation funded in FY02 with Congressional Plus-Up.

Block CNS/ATM Architecture installs begin in FY05 and consist of FMS/CDU, Digital Air Data Computer (ADC) and EFDS.

Installation Schedule

	FY 2001		FY 200	2			FY 2	2003			FY 2	2004			FY 2	2005			FY 20	006	
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							1				1				1	1					
Out								1				1				1	1				

		FY 2007				FY 2	2008			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In													233	237
Out													233	237

^{**} FY02 Congressional Add funds one (1) install

^{***} FY03 Congressional Add funds one (1) EP-3 install

Exhibit F	2-32																							
MODEL	S OF SYSTE	MS AFFEC	TED:	P-3C/	EP-3/	Deriva	tives				N	ODIF	ICAT	ION T	ITLE:	CNS/	ATM	(OSIP 1	3-01) I	Multim	ode Re	eceivers	(MMF	Rs)
INSTALI	LATION INFO	ORMATION	l:																					
метно	D OF IMPLE	MENTATIO	N:			Contr	actor	Field T	eam															
ADMINIS	STRATIVE L	EADTIME:				4		Months	1				PRC	DUCT	ION I	LEAD	ΓΙΜΕ:	8		Months	3			
CONTR	ACT DATES:			EV	2002-	05/02	,	EV ′	2003.	05/03		EV.	2004.	02/04		EV	2005:							
							_				_				_				-					
DELIVE	RY DATE:			FY	2002:	01/03	-	FY 2	2003:	01/04	-	FY:	2004:	10/04	-		2005:		-					
																(\$ in N					L .		_	
	Cost:		Prior \	rears \$	Qty	2002	Qty	2003	PY Qty	2004	Qty	2005 \$	Qty	2006	Qty	2007	P Y Qty	\$	Qty	2009	Qty	omplete \$	Qty	OTAL \$
FY 20	001 & PY (14	l) kits	14	**	Qty	Ψ	Giy	Ψ	Qty	Ψ	Qty	Ψ	Qty	Ψ_	Qty	Ψ	Qty	<u> </u>	Qty	Ψ	Qty	<u> </u>	Qty	Ι Ψ
	002 (25) kits	,					25	**																
FY 20	003 (21) kits								21	*														
FY 20	004 (15) kits										15	*												
FY 20	005 () kits																							
FY 20	006 () kits																							
	007 () kits																							
	008 () kits																							
	009 () kits omplete () kit	·s																						
TOTA			14	**			25	**	21	*	15	*												
	Will conduc	ct stand-alo	ne MMR	instal	lations	s in FY		to me		nediat		uirem	ents.	The re	emain	der of	MMF	Rs will b	e procu	red an	d insta	lled by	PMA-2	209.
* Aster	isk indicates a	amount less t	han 51K																					
** O-Le	vel - Roll-On/F	Roll-Off, No I	nstall Co	st																				
1	······ Oalaada	1-																						
mstalla	FY 2001	ile	EV 200	2		1	ΓV	2002			FV (2004		1	FV (2005		1	EV 2	000		ı		
	& PRIOR	1	FY 200	3	4	1	2	2003	4	1	FY 2	3	4	1	2	2005	4	1	FY 2	3	4			
In	14	<u>'</u>				<u> </u>	12	13			10	11	-	4	4	5	2	<u> </u>		3	1			
Out	14						12	13			10	11		4	4	5	2							
-															ı		1					_		
	1	FY 2007	3	4	1	FY:	2008	4	1	FY:	2009	4	4	To nplete	то	TAL								
In	 	<u> </u>	Ĭ											F.010		75	1							

Exhibit P-3a MODELS OF SYSTEMS AFFECTED: P-3C/EP-3/Derivatives MODIFICATION TITLE: CNS/ATM (OSIP 13-01) Electronic Flight Display Systems (EFDS) INSTALLATION INFORMATION: METHOD OF IMPLEMENTATION: Contractor Field Team ADMINISTRATIVE LEADTIME: PRODUCTION LEADTIME: Months Months FY 2002: 6/02 CONTRACT DATES: FY 2003: 6/03 FY 2005: 6/05 FY 2004: 6/04 DELIVERY DATE: FY 2002: 2/03 FY 2003: 2/04 FY 2004: 2/05 FY 2005: 2/06 (\$ in Millions) Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL Cost: \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty Qty \$ Qty \$ FY 2001 & PY (60) kits 60 FY 2002 (6) kits FY 2003 (6) kits FY 2004 (18) kits 18 FY 2005 (18) kits FY 2006 (12) kits FY 2007 (15) kits FY 2008 (15) kits FY 2009 (16) kits To Complete (71) kits TOTAL 18 Note: Will conduct stand-alone EFDS installations in FY01-05 to meet immediate requirements. EFDS will be installed concurrent with CNS/ATM Architecture installs beginning in FY05. * Prior year EFDS funded under GPS OSIP 29-92 ** FY03 Congressional Add includes one (1) EP-3E EFDS installation. Installation Schedule

	FY 2001		FY 200	2			FY	2003			FY 2	2004			FY 2	2005			FY 20	006	
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	60						2	2	2	1	1	2	2		6	6	6				

		FY 2007				FY 2	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In													147	237
Out													153	237

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE: P-3 Readiness Improvements (OSIP 04-04)	
MODELS OF SYSTEM AFFECTED: P-3C	TYPE MODIFICATION Readiness Improvement

The purpose of this program is to incorporate a number of cost effective changes to the P-3 weapon system, specifically targeting improvements to high cost and maintenance and readiness degrader items. These changes directly support improvement of the P-3's current Full Mission Capable (FMC) rate of 12% towards the CNO's goal of 66% for deployed aircraft, and address Aviation Maintenance and Supply Readiness (AMSR) issues 9 and 16. These improvements are essential to the operation of the aircraft and/or it's mission systems, but are not currently being funded by any other existing aircraft modification program. Planned improvements under this OSIP cover airframe, propulsion and avionics related subsystems, utilizing COTS technology to the maximum extent practicable to minimize development and procurement costs, and to reduce the time to field the improved systems. These changes will be packaged as Readiness Improvements Kits to be installed simultaneously by field mod teams. ASQ208 Digital Magnetic Anomaly Detection (MAD) replaces ASQ81 with a more maintainable, more reliable, and better operationally capable unit.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Competitive bid contract to be awarded January 2004.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY 2	2002	FY 2	2003	F`	Y 2004	FY	2005	FY	2006	FY	2007	FY	2008	F١	2009	To C	omplete	TO	DTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Readiness Improvements I	≺it						4	.6	7	1.1												
Installation Kits N/R								.5														
Installation Equipment																						
Readiness Improvements I	Equip						4	8.0	7	14.7												
Installation Equipment N/R								1.3		.3												
Engineering Change Orders																						
Data								.2		.2												
Training Equipment								1.7														
Support Equipment								.5		.5												
ILS								.2		.4												
Other Support								1.1		1.7												
Interim Contractor Support																						
Installation Cost									4	1.0												
TOTAL PROCUREMENT							8	14.1	14	19.9												

Notes

- 1. Totals do not add due to rounding
- 2. Asterisk indicates amount less than 51K

Exhibit P-3a																									
MODELS OF	SYSTEMS	AFFECTE	D:	P-3C						М	ODIFIC	ATION	TITLE:	P-3 Susta	inmen	t (OSIP	04-04)								
INSTALLATIO	ON INFORM	ATION:																							
METHOD OF	IMPLEMEN	ITATION:		Installat	ion will	be acc	omplish	ed by c	ontract	or mod tea	ms.														
ADMINISTRA	TIVE LEAD	TIME:		3			Months	<u>-</u>			PROD	UCTIO	N LEAD	OTIME:	12			Months	<u>-</u>						
CONTRACT	DATES:								-	FY							-								
DELIVERY D				-	F	Y 2003:		-	FY	2004:	01/05	-	FY:	2005:	01/06	-									
<u>-</u>												(\$ in	Millions)					_		_				i
	Cost:		Prior			2002	FY 2	2003		Y 2004		2005		2006		2007		2008		2009		Complete		OTAL	
<u> </u>			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
		S																							
												4.0													
											4	1.0													
	Cost: Prior years																								
FY 200	9 (12) kits																								
To Cor	nplete (144)	kits																							
TOTAL											4	1.0													İ
Installati	on Schedule	:	FV 000	20			F)/ 000				FV 0	204			EV 6	2005			EV.	2000		Ī			
1	FY 2001 & Prior	1	FY 200	3	4	1	FY 2003	3	4	1	FY 20	3	4	1	FY 2	3	4	1	2	2006	4				
In	Q 1 1101	-						<u> </u>		'		3		-	2	2					_				
Out															_	2	2								
											•														
	1	FY 20 2	07	4	1	FY 2	2008	4	1	FY 20	3	4		To mplete	T	OTAL									
In	+ '-		- 5					_	<u> </u>		J			199	•	203	1								
	Out											199		203	1										
	Out			<u> </u>		<u> </u>		<u> </u>									ı								

BUD	GET ITEM	JUSTIF	ICATION S	HEET			DATE:					
		P-40							February	2003		
APPROPRIATION/BUDGET ACTIVITY					P-1 ITEM NO	MENCLATUR	Ē					
Aircraft Procurement, I	Navy/APN-5 Air	craft Modif	ications					S-3 Series Mo	difications			
Program Element for Code B Items:	Aircraft Procurement, Navy/APN-5 Aircraft Modifications ogram Element for Code B Items:											
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QUANTITY												
COST (In Millions)	333.7		42.3	29.9	8.4	6.9	0.8	0.8	0.5	0.0	0.0	423.1

This line item funds modifications to S-3 aircraft. The S-3B is a carrier based, all weather, high wing, high subsonic, twin engine, multi-mission aircraft capable of Anti-Surface Warfare (ASUW) operations and tanking. The overall goal of the modifications budgeted in FY2004 is to continue the UHF/VHF communications improvement and the Co-Processor Memory Unit efforts; and to upgrade critical avionics, and critical structures within the aircraft. Total Active Inventory (TAI) is 111. The S-3B will reach end of service in 2015. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											To		
OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total	
39-94	UHF/VHF Comm. Impr. Prog.	65.7	17.0	19.3	7.8	6.9						116.6	
						0.9							
12-95	Critical Structures	44.4	5.2	2.5	0.5							52.6	
20-95	Critical Avionics Upgrade	181.1	14.7	5.6								201.4	
4-96	Co-Processor Memory Unit	42.4	5.4	2.5	0.1							50.5	
XX-06	Flight Critical Systems Sustainment						0.8	0.8	0.5			2.0	
TOTAL		333.7	42.3	29.9	8.4	6.9	0.8	0.8	0.5			423.1	

Totals may vary due to rounding

CLASSIFICATION:

DD Form 2454, JUN 86

UNCLASSIFIED

Exhibit P-3a		INDIVIDUAL MODIFICATION
MODIFICATION TITLE: Ultra	a High Frequency (UHF) / Very High Frequency (VHF) Communication	ions Improvement Program (CIP) (OSIP 39-94)
MODELS OF SYSTEM AFFE	CTED: S-3B	TYPE MODIFICATION: Operational Improvement

The S-3B has an operational requirement for reliable UHF and VHF communications. The current UHF radio (ANVARC-156) suffers from serious reliability and obsolescence problems, and lacks the intermal intermodulation protection required for proper operation in today's operational environment. The ANVARC-187 UHF radio to be installed is a derivative of the ANVARC-164 which is presently utilized by the Air Force and would correct the above mentioned deficiencies. The installation also permits compatibility with the L-SC equirements for UHF stelling. Communications (SATCOM) users. The radio is common with the P-3C circraft and this commonality will significantly reduce logistic support requirements. The S-3B does not currently have a VHF radio, which is required by International Air Traffic Control regulations and represents a potential safety flight problem when operating in international airspace and with foreign affileds. The ANVARC-182 is the Navy's standard VHF radio for tactical aircraft and provides the VHF capability required. One ANVARC-182 radio will be installed in 82 S-3B aircraft. This modification is validated in ORD 393-89-95, approved 23 Mar 95. S-3B ECP/#242 constitutes the CIP international, and Communication Control Group (CCC) modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-182 has Approval for Full Production (AFP), and will be verified in the S-3B with trial kit installation (TKI). The AN/ARC-187 installation was verified in the S-3B with Trial Kit Installation. Milestone III Approval for Full Production for S-3B Communications Improvement Program was granted on 23 June 1995.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	TO	ΓAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
PROTOTYPE/TKI	2	1.8																				
CIP A Kit	37	11.0	14	2.9	19	4.0	5	1.2	5	1.2												
MD-1324 Modem Control Mod	Kit																					
Installation Kits N/R		11.4		.6																		
Installation Equipment																						
ARC-182 - R/T & Mount	40	*	15	*	19	*	5	*	5	*												
MD-1324 Modem	40	1.3	15	.5	19	.7	5	.2	5	.2												
MD-1324 Modem Control																						
Crypto Fill Panels	82	.1	28	*	38	.1	10	*	10	*												
CCG Modification	44	11.3	18	4.3	19	4.4	5	1.3	5	1.3												
AS-3557 Antenna	40	.1	15	*	19	.1	5	*	5	*												
Diplexer Preamp	40	.2	15	.1	19	.1	5	*	5	*												
ARC-187 - B Kit (2 per A/C)	80	6.9	30	2.9	38	3.5	10	.7	10	1.0												<u> </u>
Installation Equipment N/R		1.2																				
Engineering Change Orders																						
Data		1.4		.8		.5																
Training Equipment	8	4.2		.5																		<u> </u>
Support Equipment		1.7		.1																		<u> </u>
ILS		1.7		.2		.2		.3		.3												<u> </u>
Other Support		8.5		1.3		1.9		.9		1.2												
Interim Contractor Support																						<u> </u>
Installation Cost	13	2.6	21	2.7	27	3.9	19	3.1	10	1.7												
TOTAL PROCUREMENT	413	65.7	150	17.0	190	19.3	50	7.8	50	6.9												

Notes:

- 1. Totals do not add due to rounding
- 2. Asterick indicates amount less than 51K
- ** AN/ARC-182 radios to be obtained from F/A-18 or other aircraft installing AN/ARC-210 radios.

Exhibit P-3a MODELS OF SYSTEMS AFFECTED: S-3B MODIFICATION TITLE: UHF/VHF Communications Improvement Program (OSIP 39-94) INSTALLATION INFORMATION: METHOD OF IMPLEMENTATION: Contractor Field Team ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 12 Months CONTRACT DATES: FY 2003: 3/03 FY 2004: 3/04 FY 2005: 10/04 FY 2002: 3/02 DELIVERY DATE: FY 2002: 3/03 FY 2003: 3/04 FY 2004: 3/05 FY 2005: 10/05 (\$ in Millions) Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ Qty \$ FY 2001 & PY (47) kits 13 2.6 21 2.7 13 1.8 FY 2002 (14) kits 2.1 FY 2003 (19) kits 19 3.1 FY 2004 (5) kits 5 FY 2005 (5) kits FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2009 () kits To Complete () kits 2.6 TOTAL ** 19 13 21 27 ** Includes trainer install(s). Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 2 2 2 & Prior 3 4 3 4 3 4 2 3 4 1 3 13 9 6 6 2 Out 13 7 7 9 9 9 6 6 7 2 2 1 FY 2007 FY 2008 FY 2009 То 1 2 3 4 1 2 3 4 2 3 4 TOTAL Complete 90 5 90

Exhibit P-3a		INDIVIDUAL MODIFICATION
MODIFICATION TITLE Critical Structure	s (OSIP 12-95)	
MODELS OF SYSTEM AFFECTED:	S-3B	TYPE MODIFICATION SLEP

S-3 aircraft are included in the Naval Aviation Plan to support the carrier Battle Group through CY 2015. The S-3A aircraft was procured from 1972 to 1976 (1960's design/avionics technology), based on ORD #0927-AS dated 25 Mar 77. The S-3B Weapons System Improvement Program, which modified the S-3A to an S-3B, focused primarily on weapon system upgrades for mission enhancement and did not upgrade the critical airframe safety of flight avionics systems. This upgrade is a series of modifications required in order to ensure effective, safely flyable aircraft through the year 2015. Specifically, the Critical Structures Upgrade modification includes replacement of the windshield temperature controller and the following airframe safety of light control elements, fuel flow/bleed air select vent valves, counterweights, and flap tack ribs. The Service Life Assessment Program (SLAP) (FY98) will certify that the fatigue and operational doads of the aircraft are accurately represented in the full scale reaction frame.

RECURRING KIT STATUS: The Critical Structures Airframe kit (consisting of horizontal stabilizer hinge fitting - ECP AL-808, counterweights - ECP AL-809, flap track ribs - ECP AL-796, and flow/bleed air select vent valves ECP AL-789), the Flight Control Elements kit, - ECP-AL-807-R1 and the Inner Wing Empenage Kit for all 111 S-3B aircraft. Starting in FY01 the Wingfold Rib program has been terminated and funds were reprioritized to UHF/VHF Comm Improvement Program (OSIP 39-94).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Replacement of the airframe components/windshield temperature controller does not require any development. Non-recurring engineering for all five components were completed in Fy 1995. First production buy began in FY 1996 and installs commenced in FY 1997. The non-recurring engineering will include design and integration efforts of Critical Structures airframe components.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY:	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E - H2452		45.5																				45.5
PROCUREMENT																						
Installation Kits																						
Critical Structures Airframe	111	3.9																				
Flight Controls Elements	111	3.5																				
Inner Wing BL144	97	1.1	14	.2																		
Inner Wing BL71	112	.2																				
Inner Wing BL58/70				**		**		**														
Installation Kits N/R		18.6		1.1																		
Installation Equipment																						
Inner Wing BL58/70				**		**		**														
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.2																				<u> </u>
Training Equipment		.2																				
Support Equipment																						
ILS		.1																				
Other Support		3.7		.4		.9																
Interim Contractor Support																						<u> </u>
Installation Cost	91	12.7	20	3.4		1.6		.5		·						•		·				
TOTAL PROCUREMENT	431	44.4	14	5.2		2.5		.5														

Notes:

- 1. Totals do not add due to rounding
- ** No A kits required. B kits provided by supply system.
- 2. Asterick indicates amount less than 51K

Exhibit P-3a																									
EXHIDIT F-3a																									
MODELS OF	SYSTEMS	S AFFECT	ED:	S-3B						N	ODIFIC	CATION	TITLE:	Critical			SIP 12-	95)							
INSTALLATION	ON INEOD	MATIONI												Inner W	/ing - E	L144									
INSTALLATIO	JIN IINFOR	IVIATION.																							
METHOD OF	IMPLEME	ENTATION	1:	NADE	P Field	Mod Te	am																		
ADMINISTRA	ATIVE LEA	DTIME:			4		Months	.			PROD	UCTION	N LEAD	TIME:		9		Months							
								-											•						
CONTRACT	DATES:		F'	Y 2002:	1/02	_ F`	Y 2003:		- F	Y 2004:		- F`	Y 2005:		-										
DELIVERY D	ATE:		F	Y 2002:	10/02	_ F`	Y 2003:	·	F	Y 2004:		F	Y 2005:		_										
													(\$ in M	illione)											
	Cost:		Prior	Years	ΕV	2002	FY	2003	FV	2004	FY	2005	ì	2006	FY	2007	FY	2008	FY	2009	Ι .	TC	TC	TAL	
	0031.		Qty	\$	Qty	\$	Qty	1	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8	& PY (97) k	rits	48	1.4	49	.7																			
FY 2002 (14) kits						14	.5																	
FY 2003 () kits																								
FY 2004 (
FY 2005 (
FY 2006 (
FY 2007 (
FY 2009 (
To Compl																									
TOTAL			48	1.4	49	.7	14	.5																	
																									!
Installation	Schedule																								
	EV 0004		F)/ 0/	200		1	5 1	0000		ı	F)//	2004		1	EV.	2005		ı	F)//	2000		1			
	FY 2001 & Prior	1	FY 20	3	4	1	2	2003	4	1	2	2004	4	1	2	2005	4	1	2	2006	4				
In	48	13	12	12	12	4	4	4	2					<u> </u>								1			
Out	39	7	13	13	13	12	4	4	4	2															
		E)/6	-											_	1		1					_			
	1	FY 200	3	4	1	FY 2	2008	4	1	FY:	2009	4	Cor	To nplete	тс	TAL									
In	'						3	7	<u> </u>			-	001	iihiere		11									
Out																11									
				•		•	•	•		•	•	•					-								ļ

Exhibit P-3a																									
MODELS OF	SYSTEM	S AFFEC	TED:	S-3B							IODIFIC	CATION		Critical Inner W			SIP 12-	95)							
INSTALLATION	ON INFOR	MATION:												milet vv	mig E										
METHOD OF	IMPLEMI	ENTATIO	N:	NADE	P Field	Mod Tea	am																		
ADMINISTR/	ATIVE LEA	DTIME:			1		Months	_			PROD	UCTION	l LEAD	TIME:		2	!	Months	-						
CONTRACT	DATES:		F	Y 2002:		F	Y 2003:		. F	Y 2004:		F	⁄ 2005:		-										
DELIVERY D	ATE:		F	Y 2002:		F\	Y 2003:		. F	Y 2004:		. F	/ 2005:		-										
-			_										(\$ in M	illions)											•
	Cost:			Years		2002		2003		2004		2005		2006		2007	1	2008		2009		TC	 	TAL	
			Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8	, ,	kits	112	.5																					
FY 2002 (
FY 2003 (1																						
FY 2005 (
FY 2006 (
FY 2007 (
FY 2008 (
FY 2009 () kits																								
To Compl	ete () kits																								
TOTAL			112	.5																					
Installation	Schedule																	1				1			
	FY 2001		FY 20		Ι.			2003	Ι.			2004				2005	Ι.	<u> </u>		2006					
l	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In Out	112 112		1	-																		l			
Out	112					<u> </u>	<u> </u>	<u> </u>			<u> </u>	L				<u> </u>			<u> </u>			I			
		FY 20	07			FY	2008			FY:	2009			То											
<u> </u>	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	TC	TAL	1								
In			-													12	4								
Out															1	12	J								

Exhibit P-3a																									
MODELS OF	SYSTEM	MS AFF	ECTED	S-3B						N	ODIFIC	CATION						95)							
INSTALLATIO	N INFO	RMATIC	ON:											Flight C	ontroi	Elements	5								
METHOD OF	IMPLEN	MENTAI	ION:	NADEP	Field M	od Tear	n																		
ADMINISTRA ⁻	TIVE LE	ADTIM	E: ,		4	N	Months	_			PROD	UCTION	N LEAD	TIME:		9		Months	_						
CONTRACT D	ATES:			FY 2002:		F	Y 2003:		_ F	Y 2004:		_ F`	Y 2005:		_										
DELIVERY DA	TF.			FY 2002:		E,	v 2003·		F	Y 2004.		E,	Y 2005.												
DELIVERY D			,	2002.		- '	. 2000.		- ·	1 2001.		- ·	. 2000.		_										
			1								1		(\$ in Mi		1						ı		1		7
	Cost:			Years		2002		2003	1	2004		2005		2006		2007		Y 2008		2009	1	С		DTAL	-
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4
FY 2001 &	,	I) kits	87	5.4	24	1.0							-								-				1
FY 2002 ()																									-
FY 2003 ()																									1
FY 2004 () FY 2005 ()																									1
FY 2006 ()																									-
FY 2007 ()																									1
FY 2008 ()																									1
FY 2009 ()																									
To Comple	te () kits	5																							
TOTAL			87	5.4	24	1.0																			
Installation S	Schedule	Э																							
	FY 200		FY	2002			FY	2003			FY	2004			FY 2	2005			FY 2	006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	87	7	7	6	4																				
Out	75	12	7	7	6	4																			
Γ		FY 1	2007			FY	2008			FY	2009		I	То			1								
ŀ	1	2	3	4	1	2	3	4	1	2	3	4		nplete	TO	TAL									
ln				•					Ï	-			1	,		11									
Out																11	1								

xhibit P-3a																							
IODELS O	F SYSTE	MS AFF	ECTE	S-3B						M	ODIFIC	CATION											
NSTALLAT	ION INFO	RMATI	ON:											Critical	Structu	res Airfr	ame Ki	<u> </u>					
IETHOD O	F IMPLEN	/ENTA	TION:	Contrac	tor Field	d Mod Te	eam																
DMINISTR	ATIVE LE	ADTIM	IE:		4	M	Months	- .			PROD	UCTION	LEAD	TIME:		9		Months	<u>!</u>				
ONTRACT	DATES:		F	Y 2002:		_ F`	Y 2003:		F	Y 2004:		F`	/ 2005:		_								
ELIVERY	DATE:																						
			ATION: Contractor Field Mod Team ME: 4 Months PRODUCTION LEADTIME: 9 Months FY 2002: FY 2003: FY 2004: FY 2005: FY 2005: FY 2006: FY 2005: FY 2006: FY 2007: FY 2008: FY 2009: To Complete TOTAL Qty \$ QtY \$ QtY \$ QtY \$ QtY \$ QtY \$ QT																				
	Cost:		Drice	Voors	Critical Structures Airframe Kit 4																		
	CUST:				•		+			1						1			1				1
FY 2001	& PY (11	1) kits)		,		/	Ť	,				,				,		
FY 2002		•																					
FY 2003	() kits																						
FY 2004	() kits																						
FY 2005	() kits																						
FY 2006	() kits						ــــــ																
FY 2007	() kits																						
FY 2008							<u> </u>																
FY 2009							—																
	olete () kits	3					—																
TOTAL			91	5.4	20	.9	ŧ																
Installation		e																				1	
	FY 2001 & Prior	1			1	1			1	1			1	1			1	1			1		
In		6				<u>'</u>		3	1 4	<u> </u>		3	4			3	1 4	<u> </u>		3	4	l	
In Out	91						+-															ł	
Out	84	5	б	б	6	4	Щ		<u> </u>			<u> </u>			<u> </u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>	J	
		FY 2	007			FY 2	2008			FY:	2009		-	Го			1						
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	TC	TAL							
In															1	11	1						
									. –	i —	1 -				. –								

Exhibit P	'-3a																							
MODELS	S OF SYS	TEMS	AFFECT	S-3B					N	ODIF	ICAT	ION T	ITLE:					SIP 12	:-95)					
INSTALL	ATION IN	NFORM	ATION:												vviilg	DE	30,10							
METHOI	O OF IMP	LEMEN	ITATION	NADE	EP Fie	ld Mod	d Tea	m/MIP																
ADMINIS	STRATIVE	E LEAD	TIME:			М	onths	-			PRO	DUCT	ION I	_EAD	TIME:		N	lonths	-					
CONTRA	ACT DATI	ES:	FY	' 2002:		-	FY	2003:			FY	2004:			FY	2005:								
DELIVE	RY DATE:		FY	' 2002:		_	FY	2003:			FY	2004:		i	FY	2005:		i						
												(\$ in	Millior	ns)										
	Cost:		Prior \	ears/	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	T	OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
MODELS OF SYSTEMS AFFECTIS-3B MODIFICATION TITLE: Critical Structures (CGIP 12-95) Inner Wing-BL 58770 METHOD OF IMPLEMENTATION NADEP Field Mod Team/MIP ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months CONTRACT DATES: FY 2002: FY 2003: FY 2004: FY 2005: CONTRACT DATES: FY 2002: FY 2003: FY 2004: FY 2005: COSE: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2000 To Complete TOTAL COSE: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2000 To Complete TOTAL SET 2001 & PY () kilds																								
MODELS OF SYSTEMS AFFECT S-3B																								
FY 20	04 () kits	*							13	.5														
FY 20	05 () kits																							
FY 20	06 () kits																							
FY 20	07 () kits																							
FY 20	08 () kits																							
FY 20	09 () kits																							
To Co	mplete ()	kits																						
TOTA	ıL.				49	.8	49	1.0	13	.5														
** Thir	ty-five (35) of the	-					be ins	stalled	d via M	IIP co	ntract												
	FY 2001		FY 20	002			FY:	2003			FY 2	2004			FY 2	2005			FY	2006				
		1	I		4	1	1		4	1			4	1	1		4	1			4			
In		13	12	12	12	13	12	12	12	7	6													
			13	12	12	12	13	12	12	12	7	6												
			•					•			•	•				•	•					ļ!		
				1									1		_									
	1	2	3	4	1	2	3	4	1	2	3	4	Con	plete	1									
															1		l							
Out]	<u> </u>			<u> </u>				<u> </u>				1	11	j							

Exhibit P-3a	INDIVIDUAL MOD	IFICATION	
MODIFICATION TITLE S-3 Critical Avionics Upgrade (OSIP 2	0-95)		
MODELS OF SYSTEM AFFECTED: S-3B		TYPE MODIFICATION:	Operational Improvement/Obsolescence
DESCRIPTION/JUSTIFICATION:			
obsolescence/non-supportability degraders for the S-3B air	craft. Modification of these critical avionics systems will en systems into the S-3B Fleet Weapons Systems Trainers (V	sure respective system operation and	t Control Systems (ARMCOS) which have become significant availability for the current and projected (2015) service life of es (PTCM) and Maintenance Trainers. The requirement for
DIGITAL FLIGHT DATA COMPUTER (DFDC) (Engineering present obsolete FDC is subject to failure modes which have			
CARRIER AIRCRAFT INERTIAL NAVIGATION SYSTEM (replacement program for the S-3B navigation, heading an- condition of the chassis and internal wiring. Replacement instruments to the navigation system bus and mission comp This modification will be installed in all of the existing 111 S	d attitude system, and associated flight instruments. The eavionics hardware consists of a CAINS II, an EGI, four new puter. The CAINS II and the EGI provide the two required he	existing system has become increasing EFIs for the cockpit, and 1553B digital	ly non-supportable due to parts obsolescence and material I Navigation Interface Unit (NIU) which connects the flight
	Stores Management System (SMS) including small circular	error probability weapon. An operable	nb Bay/Wing Decoders and wiring that comprise the current S- e SMS is required for loading, carriage and/or jettison of any procured for 65 aircraft.
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTO	DNES:		
Milestone III decision for Critical Avionics Upgrade approver prototype install commenced July 1998. RFP for SMS release		CDR held MAY 97, EDM testing comme	enced DEC 97. CAINS/EGI/EFI system CDR held OCT 97,

Exhibit P-3a	INDIVIDUAL MODIFICATION
MODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95)	
MODELS OF SYSTEM AFFECTED: S-3B	TYPE MODIFICATION: Operational Improvement/Obsolescence
FINANCIAL PLAN (TOA, \$ in Millions):	

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits ***																						<u></u>
SMS (ARMCOS)	30	1.2	45	1.9																		<u></u>
CAINS/EFI/NIU	111 ***	17.8																				<u></u>
Installation Kits N/R		15.7																				
Installation Equipment																						<u></u>
DFDC	92 ***	8.4																				<u> </u>
CAINS	111 ***	43.1																				
SMS (ARMCOS)/MAVERICK P	45	5.5	20	3.3																		
Installation Equipment N/R		31.4																				<u> </u>
Engineering Change Orders																						<u> </u>
Data		1.4																				
Training Equipment		7.1		1.3		.4																<u></u>
Support Equipment																						<u> </u>
ILS		1.8		.2																		<u> </u>
Other Support		42.2		1.6																		ļ
Interim Contractor Support																						<u></u>
Installation Cost		5.4		6.3		5.2																
TOTAL PROCUREMENT	406	181.1	65	14.7		5.6																<u> </u>

Notes:

- Totals do not add due to rounding
 Asterisk indicates amount less than 51K
- *** One (1) Prototype (CAINS, DFDC,ARMCOS) and one (1) Trial Kit Installation (TKI) (CAINS,DFDC) procured via NRE will be installed in fleet aircraft bringing total aircraft to 111. Remaining nineteen (19) DFDC procured by ES-3A program.

xhibit P-3a																								
MODELS OF	SYSTEM	S AFFEC	TED:	S-3B						N	ODIFIC	CATION	TITLE:	S-3 Cri	tical Av	ionics U	ograde	(OSIP	20-95)	SMS (A	RMCO	S)		
NSTALLAT	ON INFOR	RMATION:																						
METHOD O	F IMPLEM	ENTATIO	N:	Contract	tor Field	Mod Tea	am																	
DMINISTR	ATIVE LE	ADTIME:			4		Months				PROD	UCTION	N LEAD	TIME:		12		Months						
CONTRACT	DATES:		F	Y 2002:	1/02	F`	Y 2003:		F	Y 2004:		F`	Y 2005:						_'					
ELIVERY [)ATE:			FY 2002:		=			='	Y 2004:		='	Y 2005:		-									
JELIVEKT I	JATE.		,	- 1 2002.	1/03	- 「	1 2003.		- '	1 2004.			in Millio		-									
	Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY	2007	FY	2008	FY	2009		ГС	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (31)	kits ***	1	***	30	2.6																		
FY 2002	(45) kits						45	4.0																
FY 2003	() kits																							
FY 2004	() kits		1																					
FY 2005	,		-																					
FY 2006			-																					
FY 2007			-																					
FY 2008			1																					
FY 2009	lete () kits																							
TOTAL	icic () kits		1	***	30	2.6	45	4.0																
*** Include																								
	FY 2001		FY 2002	1	1 .		FY 20	1			1	2004	1 .		1	2005	1 .		1	2006				
l.	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In Out	1	7	7	8	8	14 14	14	14	3															
	<u> </u>	· · ·	<u>' '</u>								1		1				1		1			•		
		FY 20	007			FY	2008			FY	2009		٦	Го			1							
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	тс	TAL								
In																76]							
Out																76	J							

Exhibit P-3a	ı																								
MODELS O	F SYSTEN	/IS AFFE	CTED:	S-3B						N	IODIFIC	CATION	TITLE:	S-3 Cri	tical Avi	onics Ui	parade	(OSIP 20-	95) C <i>A</i>	AINS II					
INSTALLAT										-							3	(
METHOD O				EV 07	prototy	rne/TKL v	vae pro	cured as	contra	ctor "tur	-kov"	EV 08 a	and out	are Con	tractor F	Field Mo	d Team	(Airframe	Block)						
METHOD O	'I IIVII LLIV	ILIVIAII	IOIN.	1 1 37	prototy	pe/ ITTI	vas pro	cuieu as	COITE	ctor turi	i-key .	1 1 30 8	ina out	are con	liacioi i	ieiu ivio	u ream	(Allifatile	Diock).						
ADMINISTR	RATIVE LE	ADTIME	i:		4		Months	-			PROD	UCTION	I LEAD	TIME:		12	!	Months	<u> </u>						
CONTRACT	DATES:		F	/ 2002:		_ F`	Y 2003:		F	Y 2004:		F	/ 2005:		_										
DELIVERY I	DATE:											F													
DELIVERT	DATE.		•	2002.		- '	2000.		=				2000.		-										
	Cost:		Prior	Years	ΕV	2002	EV	2003	r	fillions) 2004	ΕV	2005	EV	2006	EV	2007	E	Ý 2008	EV	′ 2009	To Co	mplete	TO	TAL	1
	0031.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8	k PY (111)	kits ***	63				t														<u> </u>				
FY 2002 ()) kits																								
FY 2003 ()) kits																								
FY 2004 ()) kits																								
FY 2005 ()) kits																								
FY 2006 ()																									
FY 2007 ()																									
FY 2008 ()																									
FY 2009 () To Comple	•																								
TOTAL	ctc () Kits		63	5.4	35	3.7	13	1.2																	
*** Includes	(1) [- (4) T	ZI					I						ı		I							1
	. ,	Tototype	anu or	ie (1) 11	NI.																				
Installation	Schedule																					•			
	FY 2001		FY 2	002	1		FY 2	2003			FY:	2004			FY 2	2005			FY 2	2006	1				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In .	63	11	7	9	8	8	4	1																	
Out	51	12	11	7	9	8	8	4	1													l			
		FY 20	07			FY	2008			FY	2009			То											
	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	TO	TAL	1								
In																11	Į								
Out															1	11]								

Exhibit P-3a		INDIVIDUAL MODIFICATION	V
MODIFICATION TITLE Co-Processor N	Memory Unit (OSIP 04-96)		
MODELS OF SYSTEM AFFECTED:	S-3B		TYPE MODIFICATION: Operational Improvement

The Co-Processor Memory Unit (CPMU) replaces the S-3B MMU-576 Drum Memory Storage (DMS) Unit, the OL-230 Post and Display Processor (PDP) and the AN/AYK-10 General Purpose Digital Computer (GPDC). The Operational Requirements Document (ORD) # OR-927-AS was approved 27 Mar 77 and stated the requirement for software and computer capability to support a targeting capability and direct exchange of data between CV, CVW and surface assets. Moreover, the reliability, maintainability, and obsolescence of the DMS, PDP, and GPDC has degraded to levels which significantly hinder the ability to meet aircraft tactical mission requirements. The CPMU development agreement between the U.S. Navy and Canadian Government contained the requirement for an open architecture design which replaced obsolete equipment. The CPMU grade in the CPMU grade in the CPMU grade in the CPMU will host a mission program written in ADA software language (RDT&E funded). Trainer procurement is for maintenance trainer A and B kits. The ECP for this effort is Loral AYK-23-002 (with revisions) which modifies 65 aircraft and provides growth interfaces to host additional mission equipment. Procurement includes mission enhancements to provide for compatibility with S-3B Surveillance System Upgrade (which encompasses an APS-137 radar and EO/IR sensor) and is in conformance with the ORD cited above.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Co-Processor Memory Unit (CPMU) program was initiated as a joint U.S. Navy/Canadian industrial base development effort in 1991. A competitive development contract was awarded in FY 1992. Installation of EDM was completed in April 1995. Approval for LRIP was received in June 1996. LRIP production contract was awarded in June 1996. TKI commenced August 1998. Operational Testing was successfully completed in March 1999. Milestone III decision was approved in June 1999. First fleet installs began in June 1999.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY:	2002	FY:	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	1	С	TC	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E (H0489)		37.6		0.4		0.4																
PROCUREMENT																						
Installation Kits																						
AYK-23 (SSU) **	2	.1																				
AYK-23	55	1.1	8	.2	2	.1																
Installation Kits N/R		.3																				
Installation Equipment																						
AYK-23 (SSU) **	2	1.9																				
AYK-23	55	26.7	8	4.0	2	1.2																
Installation Equipment N/R		2.8																				
Engineering Change Orders																						
Data		.3																				
Training Equipment	1	.9																				
Support Equipment		.1																				
ILS		1.0		.1		.2																
Other Support		6.1		.5		.9																
Interim Contractor Support																						
Installation Cost	38	1.0	18	.6	8	.3	2	.1														
TOTAL PROCUREMENT	153	42.4	34	5.4	12	2.5	2	.1														

Notes:

- 1. Totals do not add due to rounding
- ** AYK-23 (SSU) A&B kits installed at "O" level
- 2. Asterisk indicates amount less than 51K

Exhibit P-3a																								
MODELS OF	SYSTEM	S AFFEC	CTED:	S-3B						_ N	ODIFIC	CATION	TITLE:	Co-Pro	cessor I	Memory	Unit (0	OSIP 04-	96)					
NSTALLATI	ON INFOR	MATION	l:																					
METHOD OF	IMPLEME	ENTATIC	N:	Field Mod	l Team																			
ADMINISTRA	ATIVE LEA	DTIME:			11	1	Months				PROD	UCTION	l LEAD	TIME:		16	6	Months	i					
CONTRACT	DATES:			FY 2002:	8/02	ΕY	Y 2003:	8/03	F	Y 2004:		F`	/ 2005:						_					
						•		12/03																
DELIVERY D	AIE.			FY 2002:	12/02	. [1 2003.	12/03	- '	Y 2004:		_			_									
	Cost:		Prio	r Years	ΕV	2002	FY	2003	ΕV	2004	FY	(\$ In	Million	s) 2006	FY	2007	FY	2008	FΥ	2009		ГС	Т	OTAL
	0031.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (56) F	cits	38	1.0		.6																		
FY 2002 (8) kits						8	.3	3															
FY 2003 (2) kits								2	.1														
FY 2004 () kits																							
FY 2005 () kits																							
FY 2006) kits																							
FY 2007 (
FY 2008 (
FY 2009																								
To Comp			38	1.0	18	•	8		3 2															
* Indicates		ss than !		1.0	18	.0	8	.3	2		<u>l</u>	l					ļ							
** Includes																								
Installation	Schedule																							
	FY 2001		FY 2	2002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	38	3	3	6	6	2	2	2	2	2														
Out	38	3	3	6	6	2	2	2	2	2														
		FY 2	007		1	F۷	2008		I	FV ·	2009		Ι .	То	l		1							
	1	2	3	4	1	2	3	4	1	2	3	4	1	nplete	то	TAL								
In														-	1	66	1							
Out																66	1							

Exhibit P-40, BUDGET	TEM JUSTIFIC	CATION							DATE:			
										Febuary 2003		
APPROPRIATION/BUDGET ACTIVIT	ΓΥ						P-1 ITEM NOME	NCLATURE				
Aircraft Procuremen	t, Navy/APN-5 A	ircraft Modific	ations						E-2C Series Mod	dification		
Program Element for Code B Items:							Other Related	Program Eleme	ents			
	Aircraft Procurer	nent, Navy/APN-5	Aircraft Modificati	ons								
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		A										
COST (In Millions)	908.0	A	55.5	23.6	43.1	13.7	12.6	8.3	8.4	8.6	514.0	1,595.9

This line item funds modifications to E-2C aircraft. The E-2C is an all weather, carrier based, airborne early warning and command and control aircraft. It extends task force defense perimeters by providing early warning of approaching enemy units and by vectoring interceptors into attack position. Additionally, the HAWKEYE provides strike control, radar surveillance, search and rescue assistance, communications relay and automatic tactical data exchange. The E-2C aircraft design service life is 10,000 flight hours with an average service life remaining through FY 2015. In future years, the E-2C will be a critical element of the Navy's Cooperative Engagement Capability (CEC). To realize efficiencies in cost and scheduling, the HAWKEYE 2000 OSIPs (SATCOM, Vapor Cycle, Mission Computer Upgrade (MCU) and CEC) were consolidated into one Engineering Change Proposal (ECP-418). Subsequent to establishment of ECP-418, it has become exceedingly difficult to coordinate kit and install quantities, contract dates, and training requirements across the four ECP-418 OSIPs. Beginning in FY 1999 the ECP-418 OSIPs were combined into one new OSIP, 19-99 Block Upgrade III. Consolidation of the OSIPs provides management a concise picture of cost and schedule requirements to modify and field HAWKEYE 2000 aircraft. As the result of today's technological advancements, the Commercial-Off-The-Shelf (COTS) hardware/software of the MCU will change or become obsolete in the very near future. The Technology Insertion OSIP (5-01) supports assembly, validation and configuration management of COTS hardware/software of the MCU. The DERF II NAVICP OSIP (08330) procures 283 generators to retrofit tired iron generators currently in the fleet. In the Block Upgrade II OSIP, the funding increase in FY04 over the value in FY03 is for radar obsolescence. In the Block Upgrade III OSIP, the funding increase in FY04 over the value in FY03 is to complete six (6) more CEC retrofits. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											то	
OSIP N	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
121-87	Structural Enhancements	278.5	8.8	4.8	3.3	3.0	2.6	0.2			7.1	308.2
74-88	Block Upgrade II	392.7	9.2	2.1	9.3	2.8	2.6	0.7			110.7	530.1
87-88	Outer Wing Panels	116.0	0.3								75.0	191.2
19-99	Block Upgrade III	113.4	28.2	9.1	22.1						249.3	422.2
5-01	Technology Insertion	7.5	9.0	7.7	8.4	7.9	7.5	7.3	8.4	8.6	71.9	144.2
Total		908.0	55.5	23.6	43.1	13.7	12.6	8.3	8.4	8.6	514.0	1,595.9

Note: Totals may not add due to rounding.

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 39 PAGE NO. 1

Exhibit P-3a		Individual Modification			
MODIFICATION TITLE:	Structural Enhancements (OSIP 121-87)				
MODELS OF SYSTEMS AFFECTED:	E-2C		TYPE MODIFICATION:	Safety	

DESCRIPTION/JUSTIFICATION: DESCRIPTION/JUSTIFICATION:

Analysis and fatigue test results disclosed that the wing center sections, the nose landing gear brace trunnion fitting, upper longeron splice, main beam lock fitting, lower wing skin fold actuator support fitting, rear beam lower cover splice, and rear beam lower cover skin in E-2C aircraft produced prior to aircraft 96 would fail due to fatigue prior to 10,000 flight hours. In order to extend the operational life of aircraft produced prior to aircraft 96, it is necessary to modify these areas. This modification installs an enhanced wing center section into thirty-four (34) aircraft and provides for modification of the drag brace trunnion, longeron splice, main beam lock fitting, lower wing skin fold actuator support fitting, rear beam lower cover splice and skin.

The Navy Inventory Control Point (NAVICP) projected an E-2C propeller shortage in FY 2000. As a result, NAVICP approved a Logistics Engineering Change Proposal (LECP) to procure a new eight-blade propeller for the E-2C program office. The LECP funds the non-recurring and the procurement of 187 propellers only. The E-2C program office is responsible for funding the ground/flight test and overall system integration between Northrop Grumman (airframe), Allison (engine) and Hamilton-Standard (propellers). The ground/flight test and prototype propeller kits were funded with APN-1 funds starting in FY99. In FY00 and out, retrofit propeller kits and install are being funded with APN-5 funds for seventy-five (75) E-2 aircraft.

DERF II funding received to procure 283 generators to retrofit the tired iron generators currently in the fleet. There have been over 250 failures in a 4 year period.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Developmental Component Testing began in November 1998 and is ongoing. First sucessful developmental flight test took place in April 01. Flight test is still ongoing and is expected to be completed in 4th QTR 03. In FY04, the LECP is ramping up the installation of propellers with associated ILS and spport.

Generators on contract with a delivery date of Feb 03 at a rate of 10 per month.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Pri	or Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	То	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 367R1-WCS Enhancement	28	138.6																				
LECP Propellers	50	0.8	25	0.4																		
Installation Kits N/R		14.3																				
Installation Equipment																						
Generators (DERF)			283	4.4																		
Installation Equipment N/R																						
Engineering Change Orders		0.8																				
Data		0.8																				
Training Equipment		*			1	2.5															 	
Support Equipment		1.4																			 	
Automatic Wiring Analysis						0.8																
ILS																						
LECP Propellers		1.6		0.5		0.5		1.2		1.2												
Other Support		26.2																				
LECP Propellers		1.5		3.5		0.4		1.0		0.8												
Interim Contractor Support																						
Installation Cost																						<u> </u>
ECP 367R1-WCS Enhancement	28	92.5																				
LECP Propellers	1	*	1	0.1	10	0.5	22	1.1	20	1.0												
Total Procurement		278.5		8.8		4.8		3.3		3.0												

Notes

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
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Exhibit P-3a																									
MODELS C	F SYSTEM	S AFFEC	TED:	E-2C							MODIF	FICATION	N TITLE:	Structura	I Enhance	ments (O	SIP 121-87	7)							
INSTALLAT	ION INFOR	RMATION	:	This installation	on informa	ation is fo	or the Prop	eller EC	P only																
METHOD C	F IMPLEM	ENTATIO	N:	Contractor Depo	t Field Mod	Team																			
ADMINISTF	RATIVE LE	ADTIME:				1	Months				PRODU	CTION L	EADTIM	E:			4	Months	-						
CONTRAC	DATES:		FY 2002:			Jan-02			i	FY 2003:					_			ı	FY 2004:						FY 2005:
DELIVERY	DATE:		FY 2002:			Jun-02			i	FY 2003:					_			ı	FY 2004:						FY 2005:
l													(\$ in Mill	lions)											_
	Cost:		Pr	ior Years	FY 2	2002	FY 20	003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY 2	2008	FY:	2009	To Co	mplete	TC	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
	& PY (50)	kits	1	*	1	0.1	10	0.5	22	1.1	16	0.8													
FY 2002	, ,										4	0.2													
FY 2003																									
FY 2004																									
FY 2005																									_
FY 2006																									
FY 2007					1		1									ļ	1								
FY 2008																	1								
FY 2009																	<u> </u>								
TOTAL	plete () kits	3	1	*		0.1	10	0.5	22	1.1	20	1.0					 								
	n Schedule		<u>'</u>		,	0.1	10	0.5	22	1.1	20	1.0			ı						ı				1
	FY 2001		F	Y 2002			FY 2	003			FY 2	2004			FY:	2005			FY:	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	1			1			1	4	5	5	5	6	6	6	6	3	5								
Out			1		1			1	4	5	5	5	6	6	6	6	3								
																	-								
			2007	1	ļ		2008				2009			Го											
l	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete		TAL	4								
In														21	_	75	4								
Out				<u> </u>	<u> </u>								2	26	7	75	J								

Exhibit P-3a																									
MODELS O	F SYSTEM	IS AFFEC	TED:	E-2C						_	MODI	FICATIO	N TITLE:	Structura	I Enhance	ments (OS	SIP 121-87	7)							
INSTALLAT	ION INFO	RMATION	: ;	This installation	on inform	ation is fo	or the EC	P 367R1	-WCS Er	hanceme	<u>ent</u>														
METHOD O	F IMPLEM	ENTATIO	N: <u>-</u>	Contractor Depot	Field Mod	Team																			
ADMINISTR	ATIVE LE	ADTIME:	-		4	Months		_			PRODU	CTION L	.EADTIMI	E:			24	Months	<u>.</u>						
CONTRACT	DATES:		FY 2002:					-		FY 2003:					-			1	FY 2004:				-		FY 2005:
DELIVERY	DATE:		FY 2002:					-		FY 2003:					-			ı	FY 2004:				-		FY 2005:
													(\$ in Mill	lions)											
	Cost:		Pri	or Years	FY:	2002	FY	2003	FY:	2004	FY	2005	FY:	2006	FY:	2007	FY	2008	FY:	2009	To Co	mplete	TC	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
	& PY (28)	kits	28	92.5																					
FY 2002																									
FY 2003																									
FY 2004																									
FY 2005	.,																								
FY 2006																									
FY 2007																									
FY 2008																									
FY 2009																									
	plete (6) k	its																				ļ			
TOTAL			28	92.5																					
Installatio	n Schedule	•																				_			
	FY 2001			2002				2003	1			2004	1			2005				2006	1				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	28					!							ļ					<u> </u>				4			
Out	28																					J			
									1				_		1		7								
			2007		_		2008				2009		1	Го 	T-0	T A I									
l .	1	2	3	4	1	2	3	4	1	2	3	4		plete		TAL	4								
In Out									-					6		34	1								
Out										<u> </u>	<u> </u>			6] 3	34	J								

Exhibit P-3a

IODIFICATION TITLE:	Block Upgrade II (OSIP 74-88)	
ODELS OF SYSTEMS AFFECTED:	E-2C	TYPE MODIFICATION: Mission Performance Enhancement
DESCRIPTION/JUSTIFICATION:		
	ration" including the following items: Radar Update, () System have been completed for all but (2) Group	e, Joint Tactical Information Distribution System (JTIDS), Enhanced High Speed Procesor (EHSP), NAVSTAR Global Positioning System (GPS), Enhanced Displays, and up I aircraft.
2. Group II Mission Computer Replaceme	ent Program (GrIIm RePR). This effort is a Comme	ercial Off the Shelf (COTS) technology transition MOD program and does not expand the functional envelope of the current Weapon System.
augmentation, which remains as an outsta methods and will provide improved system B. Laser-Gyro Carrier Aircraft Inertial Nav	tem (SAFCS) Computer: The AN/ASW-15 automat anding deficiency from the original flight test program n performance in all areas. rigation Systems (CAINS)ASN-139: The ASN-139 is duction in operation and support costs, compared wi	the control system (AFCS) presently installed is an obsolete design using 1950's technology. The performance of this system has never provided satisfactory stability m. Incorporation of a standardized AFCS computer is planned as the first step in the solution to the problem. This unit will be developed and built using modern design is being developed to reduce system costs by application of laser gyro technology to replace current electromechanical sensors in CAINS. Reliability will be increased and with the presently installed ASN-92 CAINS, is expected. Sixteen (16) aircraft will be modified from a Group I to Group II configuration and thirty-seven (37) aircraft will receive
4. ECP 934-01 -"Dual Element Fire Warning	ng System" -Replaces the single loop Fire Warning	Detection System in the E-2C aircraft with a dual loop system configuration. The dual loop system will alleviate false warning indications.
	56-A-427 Engine Turbine Blade Safety Modification tion polished swirl plate fuel nozzles (IPPC116).	n' - Existing fuel nozzles coke (6 nozzles per engine) which reduces fuel flow thus creating hot sections within the engine causing damage to the engine turbine. This ECP will
	ence/Readiness Improvements to the APS-145. The icrease in FY04 over the value in FY03 is for radar of	e APS-145 is the number one mission degrader for the weapon system. This OSIP will fund the non- recurring and recurring engineering to resolve radar component reliability obsolescence.
7. Vapor Cycle - The vapor cycle ECP 93	39-01 funds wiring modification, rebussing of unders	rsized wiring between circuit breakers in the vapor cycle system. Fifty-Two (52) aircraft will be retrofitted with this modification.
	& Effectiveness Improvement (CREI) - ' T56-A-427 rease the reliability of the T56-A-427 engine by redu	7 First Stage Turbine Blade-Track Seal Replacement - A more durable metal blade track seal will replace the current ceramic seal. This design change is consistent with newer ducing low power removals.
DEVELOPMENT STATUS/MAJOR DEVE Kits are being procured and installed on al		

Individual Modification

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CLASSIFICATION: UNCLASSIFIED

		r Years	FY 2002		FY 2003		FY 2004			2005		2006	FY 2007		FY 2008		FY2009			Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E		0.1																					
PROCUREMENT																							
Installation Kits																							
ECP 400-GRP I to GRP II	13	93.7																					
ECP 403-NAV Upgrade	10	9.1																					
ECP 402R1-Eng Oil Warning	13	1.1																					
ECP 246R1-Dual Eng Fire Warn	78	0.1																					
ECP 410-SATCOM	4	0.3																					
afety ECP 934-01Dual Fire Warn			74	1.7																			
afety ECP 939-01 Vapor Cycle			52	0.8																			
nstallation Kits N/R		47.6																					
CP 2133 Fuel Nozzles		1.9																					
ngine Turbine Blade (CREI)						1.2		1.1		0.8													
CP xxx Grllmrpr		6.3		6.2																			
Installation Equipment																							
ECP 400-Grp I to GRP II	13	29.5																					
ECP 403-NAV Upgrade	10	5.5																					
adar Obsolesence								6.9		1.4													
Installation Equipment N/R		1.0																					
Engineering Change Orders																							
Data		15.2																					
Training Equipment	2	59.4																					
Support Equipment		40.9																					
LS		15.2						0.3															
Other Support		21.8																					
nterim Contractor Support																							
nstallation Cost																							
afety ECP 939-01 Vapor Cycle			1	*	17	0.3	18	0.3	11	0.2													
afety ECP 934-01 Dual Ele Fir Wa			18	0.6	15	0.5	18	0.6	13	0.4													
ECP 400Grpl to Grp II	13	37.8												Ì									
ECP 403 Nav Upgrade	10	6.5																					
otal Procurement		392.7		9.2		2.1		9.3		2.8			1	1						t	—	\vdash	

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a																											
MODELS O	F SYSTEM	IS AFFEC	CTED:	E-2C							MOI	DIFICATIO	N TITLE:	Block Upg	rade II (O	SIP 74-88)											
NSTALLAT	ION INFO	RMATION	l:	This installat	ion infor	mation is fo	or the Grou	ıp I to Groı	up II Updat	e Only (ECF	9 #400 <u>)</u>																
METHOD O	F IMPLEN	IENTATIC	DN:	Contractor (Turn	-Key) Driv	e-In Modificati	on (DIM) for k	it procuremer	nts FY 1997 ar	nd subsequent.																	
ADMINISTR	RATIVE LE	ADTIME:				4	Months	<u>.</u>	PRODUCTION LEADTIME:							24		Months									
CONTRACT	DATES:		FY 2002:		FY 2003: FY 2004:												_	FY 2005:									
DELIVERY	DATE:		FY 2002:	·				_	FY 2003: FY 2004:												FY 2005:						
1			1				1						in Million						_		_						
	Cost:		_	ior Years \$		2002	Qtv	2003		2004	Qtv	2005 \$	Qtv	2006	FY 2007 Qtv \$		FY 2008 Qtv \$		FY 2009 Qtv \$		Qtv	Complete	_	TOTAL	_		
EV 2001	& PY (13)	kito	Qty 13		Qty	\$	Qty	3	Qty	\$	Qty	3	Qty	\$	Qty	3	Qty	3	Qty	Þ	Qty	\$	Qty	\$	_		
FY 2002		KILS	13	31.0		1																	+	1	_		
FY 2003	. ,																						-		_		
FY 2004							1																		_		
FY 2005																							1		_		
FY 2006			1																				+	1	_		
FY 2007																											
FY 2008																											
FY 2009																											
	plete (3) ki	ts																									
TOTAL			13	37.8																							
	n Schedule	e		4,0000				0000			EV.	2004			EV.				E)/			Ī					
	FY 2001 & Prior	1	2	7 2002 3	4	1	2	2003	4	1	FY 2	3	4	1	FY 2	3	4	1	2	2006	4						
In	13	-		3	_	 		3	-			3	_	- ' -		3	-			J	-						
Out	13					†																					
				ı	ı				•		1					1											
		FY	2007	FY 2008 FY 2009 To																							
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	TC	TAL											
In														3	1	16	1										
Out						†								3	_	16	1										
							1																				

Exhibit P-3a																												
MODELS O	F SYSTEM	IS AFFEC	TED:	E-2C							MOI	DIFICATIO	N TITLE:	Block Upg	rade II (OS	SIP 74-88)												
INSTALLAT	ION INFO	RMATION	l:	This installa	tion is fo	r the Navig	ation Upda	ate Only (E	CP #403)																			
METHOD O	F IMPLEN	ENTATIC	N:	Contractor (Turn	n-Key) Drive	e-In Modification	on (DIM) for ki	t procuremen	ts through FY	1996. Contracto	or DIM for kit	procurements	FY 1998 a	nd subseque	nt													
ADMINISTRATIVE LEADTIME:						4	4 Months PRODUCTION LEADTIME:											Months										
CONTRACT	DATES:		FY 2002:				FY 2003:											F	2004:				FY 2005:					
DELIVERY DATE: FY 2002:								-		FY 2003:	FY 2004:									FY 2005:								
													in Million															
	Cost:			ior Years		2002	_	2003		2004		2005			FY 2007		FY 2008		FY 2009			Complete	TOTAL					
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	<u>. </u>			
	& PY (10)	kits	10	6.5	5	 																		1				
FY 2002																							-	-				
FY 2003																							_					
FY 2004																												
FY 2005																												
FY 2006																							_	_	_			
FY 2007 FY 2008					1																		-					
FY 2008																								+				
	plete (27) I	rito																					-	_				
TOTAL	piete (27) i	uts	10	6.5	<u> </u>																			_				
Installatio)					•								•								•	•	'.			
	FY 2001			/ 2002				2003			FY 2				FY 2			<u> </u>		2006		ļ						
l .	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	l						
In Out	10 10				1	1																ĺ						
Out	10		<u> </u>	<u> </u>	<u> </u>		1	<u> </u>			<u> </u>		<u> </u>		<u> </u>		<u> </u>	<u> </u>		<u> </u>	<u> </u>	ı						
	r	F\/	2007		1	ΓV	2008		1	FY 20	000			To	1		1											
	1	2	3	4	1	2	3	4	1	2	3	4		To nplete	TC	TAL												
In			3	-	 		3		<u> </u>		3	-		27		37	1											
Out			 	<u> </u>	!	 	1	-					_	27	_	37	1											
Out	Ĺ	1	1		ı	1	1			1		1					J											

Exhibit P-3a																												
MODELS O	F SYSTE	MS AFFE	CTED:	E-2C							МО	DIFICATIO	N TITLE:	Block Upg	rade II (O	SIP 74-88)												
INSTALLAT	ION INFO	RMATION	N:	This installa	tion inforr	mation is fo	r the Dual	Element F	ire Warnin	g Safety EC	P 934-01																	
METHOD OF IMPLEMENTATION: Depot Drive In Modification																												
ADMINISTRATIVE LEADTIME: 1 Months							PRODUCTION LEADTIME:								3		Months											
CONTRACT DATES: FY 2002:							FY 2003:										FY	Y 2004:				FY 2005:						
DELIVERY DATE: FY 2002:							_		FY 2003:	FY 2004:									FY 2005:									
									1				in Million	_							1							
l I	Cost:		_	ior Years		2002		2003		2004		2005		2006	FY 2007		FY 2008		FY 2			Complete	TOTAL					
EV 2004	& PY ()	des	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
	(74) kits		1		18	0.6	15	0.5	18	0.6	13	0.4											 	1				
FY 2003			+		10	0.0	13	0.5	10	0.0	13	0.4											1					
FY 2004																							1					
FY 2005																							1					
FY 2006																												
FY 2007	() kits																											
FY 2008	() kits																											
FY 2009) () kits																											
	plete () ki	ts																										
TOTAL					18	0.6	15	0.5	18	0.6	13	0.4																
	FY 2001	1	5	Y 2002			EV	2003			FY 2	004			FY 2	2005	ļ		EV	2006		Ī						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
In	2			9	9	4	4	4	3	5	5	4	4	4	4	3	2				Ė							
Out			İ		9	9	4	4	4	3	5	5	4	4	4	4	3											
	FY 2007 FY 2008									FY 20	009	09		То			1											
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	TC	OTAL												
In										•				10		74												
Out														12		74												

Exhibit P-3a																											
MODELS O	F SYSTEM	//S AFFE	CTED:	E-2C							МО	DIFICATIO	N TITLE:	Block Upg	rade II (O	SIP 74-88)											
INSTALLAT	ION INFO	RMATION	۷:	This installa	tion infor	mation is fo	or the Vapo	or Cycle Sa	fety ECP																		
METHOD O	F IMPLEM	MENTATIO	ON:	Depot Drive-Mo	dification (D	iM)																					
ADMINISTR	ATIVE LE	ADTIME:				1	Months	<u>.</u>			PRODU	CTION LEA	ADTIME:			5		Months									
CONTRACT	DATES:		FY 2002:	:	Feb	p-02		_		FY 2003:					_			F	Y 2004:				_		FY	2005:	
DELIVERY I	DATE:		FY 2002:	:	Jul	-02		_		FY 2003:					_			F	Y 2004:				_		FY	2005:	
													in Million														
	Cost:		_	ior Years		2002		2003		2004		2005		2006	_	2007	_	2008	FY 2			Complete		TOTAL			
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty		3		
FY 2001		cits																						ļ			
FY 2002					1	*	17	0.3	18	0.3	11	0.2												1			
FY 2003																								1			
FY 2004			1			ļ	ļ																	-			
FY 2005 FY 2006			1				1										-						1	+			
FY 2007			1				1																1	+			
FY 2008					1												†							1			
FY 2009																								1			
To Comp		s																									
TOTAL					1	*	17	0.3	18	0.3	11	0.2		İ										1			
	EV 2004			v/ 2002		1	FV :	2002			EV	2004			EV 2	2005		ı	FV.	2000		1					
	FY 2001 & Prior	1	2	Y 2002 3	4	1	2	2003	4	1	FY 2	3	4	1	FY 2	3	4	1	2	2006	4	1					
In	311101	-		_ <u> </u>	1	5	4	4	4	5	4	5	4	4	4	2	1	<u> </u>			_	1					
Out					1	1	5	4	4	4	5	4	5	4	4	4	2					1					
				•	•	-					•		•	-	•						•	•					
		FY	2007			FY	2008			FY 20	009			To													
	1	2	3	4	1	2	3	4	1	2	3	4	Con	mplete	TC	OTAL]										
In														5		52	1										
Out														6		52											
																	_										

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	Outer Wing Panel (OSIP 87-88)		
MODELS OF SYSTEMS AFFECTED:	E-2C	TYPE MODIFICATION:	Safety

DESCRIPTION/JUSTIFICATION:

The E-2C fatigue test and inspection of aircraft have identified fatigue stress cracks in outer wing panels (OWP) which would cause the loss of aircraft and resulting in injury or loss of personnel. The OWP's installed on the E-2C aircraft are light hour similarly or loss of personnel. The OWP's installed on T56-A-427 configured aircraft are limited to 7,500 flight hours. Teardowns of fleet OWP's showed that overhead of the OWP is neither technically practical nor cost effective. This modification develops and incorporates enhancements to the OWP which extends the aircraft service life thru FY 2015. There are seventy-five (75) aircraft in the inventory. Forty-three (43) aircraft will be retrofitted with the redesigned OWP.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

An updated design OWP's was installed on all new production aircraft delivered after April 1985. Earlier aircraft will be retrofitted with the newly designed OWP.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	r Years	FY	2002	FY 2	2003	FY:	2004	FY:	2005	FY	2006	FY 2	2007	FY:	2008	FY:	2009	To C	Complete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 362R2C2-OWP	82	77.7																				
ECP 378 Redesigned OWP	10	22.0																				
ECP 383R1C1 SDRS	108	0.6																				
Attaching Hardware	5	1.4																				
Installation Kits N/R		6.8																				
ECP 434R1 Nav Upgrade OWP		0.8																				
Installation Equipment																						
ECP 383R1C1 SDRS		3.0																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data		1.7																				
Training Equipment																						
Support Equipment		0.9																				
ILS		0.3																				
Other Support		0.1		0.3																		
Interim Contractor Support																						
Installation Cost																						
ECP 362R2C2 OWP	82	0.7																				
Total Procurement		116.0		0.3																		

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

UNCLASSIFIED CLASSIFICATION:

Exhibit P-3a	Individ	idual Modification		
MODIFICATION TITLE:	Block Upgrade III (OSIP 19-99)			
MODELS OF SYSTEMS AFFECTED:	E-2C		TYPE MODIFICATION:	Mission Performance Enhancement

DESCRIPTION/JUSTIFICATION:

The HAWKEYE 2000 OSIPs (Satellite Communications 21-95, Vapor Cycle 22-95, Mission Computer Upgrade 4-97, and Cooperative Engagement Capability 12-97) were consolidated into one engineering change proposal (ECP-418) to realize efficiencies in cost and scheduling. Subsequent to establishment of ECP-418, it has become exceedingly difficult to coordinate kit and install quantities, contract dates, and training requirements across the four ECP-418 OSIPs. Beginning in FY 1999 the ECP-418 OSIPs were combined into one new OSIP, 19-99 Block Upgrade III. Consolidation of the OSIPs provides management a concise picture of cost and schedule requirements to modify and field HAWKEYE 2000 aircraft. The funding in FY99 thru FY00 for training equipment is to support the HAWKEYE 2000 production aircraft being delivered in FY02. The funding will procure one (1) Weapon System trainer, one (1) CEC Antenna trainer, one (1) Maintenance trainer design and one (1) Computer Based Trainer (CBT) update. There are seventy-five (75) total aircraft in the inventory. To date three (3) aircraft have been retrofitted with this ECP. Navy intends on retrofitting a portion of the E-2C aircraft above and beyond the 21 aircraft multi-year procurement.

Satellite Communication (SATCOM): By JCS directives, all components of the Armed Forces who have satellite communications must be able to communicate using the Demand Assign Multiple Access (DAMA) waveform and be capable of narrow band secure voice. To meet these requirements the E-2C program will integrate Mini-DAMA into the aircraft. The Mini-DAMA unit is a UHF, full duplex radio with four full duplex parts and eight half duplex baseboard input/output. It incorporates the UHF SATCOM, line of sight radio functions, 5 and 25 KHz DAMA waveforms and embedded OTCIXS II, KGV-11 (TRANSEC) and COMSEC module for oderwire encryption for both 5 and 25 KHz DAMA functions. The Mini-DAMA has growth provisions for secure voice (ANDVT), TADIX-A, KG-84A and SAFENET. Previously OSIP# 21-95. ORD Number 174-094-87 dated 12 Aug 87. There are seventy-five (75) aircraft in the inventory. Fifty-Five (55) aircraft will be retrofitted with this modification.

Mission Computer Upgrade (MCU): The L-304 central data processing computer uses inputs from onboard sensors, data links, and a library of stored data to present a symbolic representation of the tactical situation to the operators. Data expansion resulting from Update Development Program II has pushed the computer capability to it's ultimate limit, preventing utilization of improved target detection which could be achieved by emerging radar technology, infrared search and track, and SATCOM. All of these technologies are needed for execution of the E-2C battle management mission and for cooperative engagement operations. This OSIP funds retrofit of a replacement computer based on proven advances in computer technology and developed under the RDT&E Program Element No. 0204152N. As part of the MCU suite, the three (3) existing Cathode Ray Tube displays will be replaced with Advance Control Indicator Set (ACIS) workstations incorporating flat panel displays, and connected via a local area network. The layout of the ACIS workstation controls has been heavily influenced by Fleet inputs. Additionally, based on Commercial Off The Shelf (COTS) technology, the ACIS workstations will streamline Integrated Logistics Support and facilitate future upgrades. Previously OSIP# 4-97. ORD Number 371-88-94 dated 20 Sep 94. There are seventy-five (75) aircraft in the inventory. Ten (10) aircraft were retrofitted with this modification. Navy intends on retrofitting a portion of the E-2C aircraft above and beyond the 21 aircraft multi-year procurement.

Cooperative Engagement Capability (CEC): The Navy has developed the capability to share sensor data through a network and perform the targeting process using sensors installed in remote platforms to augment the target position information on individual ships. The E-2C radar and passive detection systems provide vital target information over an increased surveillance area for greater situational awareness and provides early warning of distant targets. This program identifies the costs associated with integrating CEC into 53 E-2Cs and developing the support structure necessary to successfully deploy the system. Previously OSIP# 12-97. ORD Number 388-86-95 dated 4 Jan 95. There are seventy-five (75) aircraft in the inventory. Navy intends on retrofitting a portion of the E-2C aircraft above and beyond the 21 aircraft multi-vear procurement. FY04 funding was increased to retrofit six (6) Hawkeve 2000 with CEC.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

SATCOM: PMW-156 is the sponsor on the Mini-DAMA. LRIP deliveries started in June 1996. Operational Assessment completed and production has resumed.

Vapor Cycle: N/A.

Mission Computer Upgrade (MCU): LRIP decision was granted in July 1997. TECHEVAL was successfully completed in Oct. 2000. OPEVAL was successfully completed in July 01. Full Rate Production began in FY01.

Cooperative Engagement Capability (CEC): PEO TAD(C) is the sponsor of Cooperative Engagement Capability.

INANCIAL PLAN. (TOA, \$ III IV		or Years	FY	2002	FY	2003	FΥ	2004	FY	2005	FY	2006	F	Y 2007	FY 2	2008	FY2	2009	To	Complete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 418-Hawkeye CEC MCU	2	18.0	1	9.0																		
E-2C SATCOM MINI DAMA Kit			17	6.0																		
Installation Kits N/R																						L
Installation Equipment																						L
CEC Boxes	4	21.9			1	4.5	6	22.1														L
ECP 418-Hawkeye 2000	2	24.5	1	9.0																		
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.7																				
Training Equipment	3	33.7		1.0																		
ISMT Trainer					1	2.1																
Support Equipment		0.9																				├
ILS		0.1																				├
Other Support	1	7.8		0.3		2.5																├
Interim Contractor Support																						
Installation Cost											ļ										ļ	<u> </u>
ECP 418-Hawkeye 2000	2	5.7	1	3.0							ļ										ļ	<u> </u>
Total Procurement		113.4		28.2		9.1		22.1														1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. FY04 6 CFC boxes \$23279 for HF2K backsfits

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 39 PAGE NO. 12

Exhibit P-3a																									
MODELS OF	SYSTEM	IS AFFEC	TED:	E-2C						•	MOI	DIFICATIO	ON TITLE:	Block Upgra	de III (OSI	P 19-99)									
INSTALLAT	ON INFOR	RMATION	:	ECP 418																					
METHOD O	F IMPLEM	ENTATIO	N:	Contractor Drive	e-In Modifica	ation (2 year lea	ıd-time)																		
ADMINISTR	ATIVE LEA	ADTIME:			3		Months	<u>s</u>			PRODUC	CTION LE	ADTIME:			18		Months							
CONTRACT	DATES:		FY 2002:	:				_		FY 2003:					_			F	Y 2004:				_		FY 2005:
DELIVERY I	DATE:		FY 2002:	:				_		FY 2003:					_			F	Y 2004:				_		FY 2005:
												(\$ in Millior	ns)											_
	Cost:			rior Years	_	Y 2002		/ 2003		2004		2005		2006		Y 2007	FY 2			2009		Complete		TOTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
	& PY (2) k	rits	2	5.7																					
FY 2002					1	3.0																			
FY 2003																									
FY 2004	• •																								
FY 2005																									
FY 2006																									
FY 2007	• •																								
FY 2008																									
FY 2009																									
	olete () kits	3																							
TOTAL			2	2 5.7	1	3.0																			
Installatio	n Schedule)		Y 2002		ı	57	2002			FY 2	004		T	EV.	2005			FV	2000		1			
	& Prior	1	2	3	4	1	2	2003	4	1	2	3	4	1	2	3	4	1	2	2006	4				
In	2	<u>'</u>		3	1			3	4			3	4			3	4	-		3	4				
In Out	2		+		- '-		 	 	 				1		 							1			
Out	2	<u> </u>			<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>				<u>'</u>	<u> </u>	<u> </u>							1			
			Y 2007			FY 2	2000			FY 2	2000		T .	То	I		1								
	1	2	3	4	1	2	3	4	1	2	3	4	-	mplete	Ι,	TOTAL									
In				7	 	-		7	- ' -			7	- 50	pioto	-	3	1								
Out			+		l		 						1			3	1								
Out		1	1	1		ı		1			1		1				J								

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a	Indivi	idual Modification	
MODIFICATION TITLE:	Technology Insertion (OSIP 5-01)		
MODELS OF SYSTEMS AFFECTED:	E-2C	TYPE MODIFICATION:	Mission Performance Enhancement

DESCRIPTION/JUSTIFICATION:

Commercial technology obsolescence drives hardware and software changes in an MCU-based fleet. As MCU squadrons standup, video boards, memory boards, CPU cards, and operating systems will change or become obsolete. The new configuration must be validated, integrated, and controlled. Funding is required to support capability for assembly, validation, and configuration management of Commercial Off-The-Shelf (COTS) hardware/software provided to MCU squadrons and updated on a 4-year technology insertion cycle. Mission Computer Operating System conversion required by FY06 because of ADA obsolescence. A move to middleware to reduce unique computer types to reduce life cycle costs and increase flexibility in a COTS environment. There are seventy-five (75) aircraft in the inventory. Sixty-two (62) aircraft will be retrofitted with this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Hawkeye 2000 Program Support Activity (PSA) will insure software is upgraded, revised, and integrated so it functions with the versions of the COTS hardware and software delivered with the Mission Computer and ACIS. The integration effort must start no less than one year prior to the delivery.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY	2003	F`	Y 2004	FY	2005	F١	2006	FY	2007	F١	2008	F١	Y2009	To	Complete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS		0.9		0.5		0.5		0.6		0.4												
Other Support																						
ACIS & MC CM Upgrade Support		0.4		0.5		0.4		0.4		0.4												<u> </u>
CEC CM & Upgrade Support		0.4		0.5		0.4		0.4		0.4												<u> </u>
Software Tools		0.8		1.1		1.2		1.3		1.0												<u> </u>
Software Integration & CM		3.0		3.8		3.2		3.8		3.6												<u> </u>
Software Upgrades		2.0		2.6		2.0		2.0		2.0												
Interim Contractor Support																						<u> </u>
Installation Cost																						
Total Procurement		7.5		9.0		7.7		8.4		7.9												

Notes

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
DD Form 2454, JUN 86 ITEM NO. 39 PAGE NO. 14 CLASSIFICATION: UNCLASSIFIED

Exhibit P-40, BUDGET IT	EM JUSTIFICATION	1							DATE:			
										Februa	ary 2003	
APPROPRIATION/BUDGET AC	CTIVITY						P-1 ITEM NOMEN	ICLATURE				
Aircraft Procurement, Navy	y/APN-5 Aircraft Modi	fications							Traine	r Aircraft Modi	fication	
Program Element for Code B It	ems:						Other Related	Program Eleme	ents			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY												
COST (In Millions)	24.4	A	5.1	2.8	10.5	11.8	13.1	12.7	9.9		18.6	108.9

This line item funds modifications to a group of trainer aircraft which includes T-34C, T-39, T-44A, TH-57, TH-6, and T-38. The trainer aircraft are described as follows: The T-34C is a single engine turbo-prop, multi-seat aircraft produced by Beech Aircraft used to simulate jet aircraft flight; the T-39 is a dual-engine, multi-purpose aircraft used to train undergraduate flight officers; the T-44 is a twin-engine, multi-seat aircraft produced by Beech Aircraft used to simulate operation of twin engine aircraft, specifically the P-3; the TH-57 and TH-6 are a single-engine, multi-seat rotary wing aircraft used for helicopter training. The T-38 is a two seat twin-engine supersonic jet aircraft utilized by the US Navy Test Pilot School to train pilots, test flight officers, and test engines.

The overall goal of the modification is to maintain safe and reliable operation of the trainer aircraft through the timely installation of necessary changes. The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											To	
OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Total</u>
13-97	T-34 GPS	11.3	0.7									12.0
05-00	T-39 UMFOTS UPGRADE	9.7	1.3	0.3	0.6							11.8
28-00	T-39 WING REPLACEMENT	3.5	3.1	2.5	0.6						0.7	10.4
05-04	T-44 AVIONICS OBSOLESCENCE				6.3	6.7	7.9	7.8	5.5			34.2
15-04	T-38 A/C CONVERSION				2.9	5.1	5.2	5.0	4.4		18.0	40.6
	Total	24.4	5.1	2.8	10.5	11.8	13.1	12.7	9.9		18.6	108.9
Note: Tota	Is may not add due to rounding.											

Exhibit P-3a	Individual Mo	odification		
MODIFICATION TITLE:	Global Positioning System (GPS) (OSIP 13-97)			
MODELS OF SYSTEMS AFFECTED:	T-34C	TYPE MODIFICATION:	Saftey	

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is a spaced-based radio positioning and navigation system that will provide three-dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment; (i.e., Automatic Heading Reference System, Flight Management System), on selected applications. A waiver to use commercial, Standard Positioning Service (SPS) GPS receivers was approved by ASD. In the T-34 aircraft, this will be accomplished by integration of the Allied Signal KLN-900 GPS. This system will allow enroute and terminal GPS navigation as well as nonpressision capability as such operations were heretofore not possible in this aircraft. Directed by Assistant Secretary of Defense Memorandum of 1 Dec 94, Subj, Commercial GPS Receiver for T-34 c Aircraft. During the GPS MOD, it was noted that Naval Anti-Collision Warning System (NACWS) was incurring interface problems, requiring a software update to allow proper data transfer. There are 316 T-34s in the Active Inventory, all 316 will be accompliant.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS system to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY:	2003	FY:	2004	FY:	2005	FY:	2006	FY:	2007	FY	2008	FY2	2009	To Co	mplete	Te	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit	316	7.1																				
XXX Kit																						
XXX Kit																						
Installation Kits N/R		0.4																				
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.1																				
Training Equipment	22	1.8		0.2																		
Support Equipment																						
ILS				0.2																		
Other Support	1	0.4		0.3																		
Interim Contractor Support	1 -	0.4					<u> </u>															
Installation Cost	316	1.1																				
Total Procurement		11.3		0.7																		

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

- 1 11 11 12 12 12																									
Exhibit P-3a																									
MODELS OF	SYSTEM	IS AFFE	CTED:	T-34C						_	MODI	FICATIO	N TITLE:	Global F	Positionin	g System	(GPS) (OSIP 13-	97)						
NSTALLATIO	ON INFOR	RMATION	l :																						
METHOD OF	IMPLEM	ENTATIO	ON:												C	ontractor	Forced Re	trofit							
ADMINISTRA	ATIVE LEA	ADTIME:				1	Months				PRODU	CTION L	EADTIM	E:				Months							
																			•						
CONTRACT	DATES:		FY 2002:					-		FY 2003:					-			- 1	FY 2004:				-		FY 2005:
DELIVERY D	ΔΤΕ:		EX 2002:		FY 2003: FY 2004: (\$ in Millions)																		FY 2005:		
JELIVEI(I D	AIL.		1 1 2002.					-		1 1 2005.					-			,	1 1 2004.				-		1 1 2003.
													(\$ ir	n Millions	s)										_
	Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY 2	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	TC	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 8	. ,	ts	316	1.1																					
FY 2002 (. ,																								
FY 2003 (
FY 2004 (.,																								
FY 2005 (
FY 2006 (. ,		1																						
FY 2007 (. ,		1					-									.	-							
FY 2008 (1					-									.	-							
To Compl																									
TOTAL	iele () Kilo	•	316	1.1																					-
TOTAL			310	1.1		l	I .		I .					l		l				l					_
Installation	Schedule																								
F	FY 2001		FY	2002			FY:	2003			FY	2004			FY	2005			FY:	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	316																								
Out	263	53																							
-					1										1		1								
			2007				2008				2009			0	_										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	-	TAL	l								
In			ļ													16	Į.								
Out															3	16									

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	UMFOTS Upgrade (OSIP 05-00)		
MODELS OF SYSTEMS AFFECTED:	T-39N and T-39G Aircraft and Ground Based Training System (GBTS)	TYPE MODIFICATION:	Conversion/Safety

DESCRIPTION/JUSTIFICATION: The block upgrade to the Undergraduate Military Flight Officer Training System (UMFOTS) is needed to enable the system to continue training and improve safety of flight. This block upgrade consists of the following aircraft improvements: radar array upgrade (to be incorporated into 17 T-39Ns and 1 CT-38G), incorporation of GPS into 16 T-39N aircraft, incorporation of an Emergency Locator Transmitter (ELT) into the 8 T-39G aircraft, and incorporation of the Traffic Alert and Collision Avoidance System (TCAS II) into 17 T-39N and 8 T-39G aircraft. OPNAV approved the incorporation of the TCAS system which provides the capability for the T-39 aircraft to avoids mid-air collision. This system consists of a processor, transponder, indicator, control head, TCAS antenna top and bottom, and transponder antenna top and bottom. The incorporation of GPS into the T-39N aircraft complies with minimum FAA requirements for future U.S. airways operation. The GPS kit consists of a computer, antenna, wiring, and mounting hardware. GPS prototype was accomplished under separate modification with funds from PMA187. There are 17 T-39N in the fleet and 8 T-39Gs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The components of this block upgrade will be COTS as turnkey items.

FINANCIAL PLAN: (TOA, \$ in Millions)

<u> </u>	Pri	or Years	FY	2002	FY 2	2003	FY:	2004	FY:	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	T,	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit	14	1.5			2	0.2																
B Kit	17	1.7					1	0.6														
C Kit	8	0.2																				
D Kit	21	6.1	4	1.2																		
Installation Kits N/R																						
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data						*																
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		0.2		0.1																	<u> </u>	
Interim Contractor Support																			<u> </u>		<u> </u>	<u></u>
Installation Cost	60		4		2		1														Ь	<u> </u>
Total Procurement		9.7		1.3		0.3		0.6					I		I							

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODELS OF	SYSTEM	IS AFFE	CTED:	T-39N,T-39G	and Gro	ound Base	ed Traini	ng Syste	m	_	MODI	FICATIO	N TITLE:	UMFOTS	S Upgrade	(05-00)										
INSTALLATIO	ON INFOR	RMATION	۷:																							
METHOD OF	IMPLEM	IENTATIO	ON:											Con	ncurrent wi	th ACI or D	Prop-in at C	LS Depot	Facility							
ADMINISTRA	ATIVE LE	ADTIME:				1	Months	<u>s</u>			PRODU	CTION L	EADTIM	E:			1	Months	•							
CONTRACT	DATES:		FY 2002:		Nov-01			_		FY 2003:			Nov-02		-			ı	FY 2004:		Nov	-03	= ∙		FY 2005:	
DELIVERY D	ATE:		FY 2002:		Dec-01			_		FY 2003:			Dec-02		-			-	FY 2004:		Dec	:-03	<u>-</u>		FY 2005:	
			7						•				(\$ in	Millions)	T:										_	
	Cost:			ior Years		2002		2003		2004		2005		2006		2007	FY 2		FY 2		To Co	_		TAL	4	
EV 2004	9 DV (60)	leito	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	≓	
FY 2001		KIIS	60		Δ	1																			-	
FY 2003			1				- 2	,																	┥	
FY 2004							1	-	1																┪	
FY 2005																									7	
FY 2006	. ,																								7	
FY 2007																									7	
FY 2008	() kits																									
FY 2009	() kits																									
To Comp	lete () kits	s																								
TOTAL			60		4	ı	1	2	1																	
Installation		e		4,000			574	2000		1	- FV	0004			574	2005			EV.							
[FY 2001 & Prior	1	2 F	Y 2002 3	4	1	2	2003	4	1	FY 2	2004	4	1	2	2005	4	1	FY 2	3	4					
In	60	1	1	1	1	1	1			1		- 5								5						
Out	60	1	1	1	1	1	1			1																
				•			•		•																	
ſ		F'	Y 2007			FY 2		FY	2009		T	ō														
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	ТО	TAL										
In				_											6	57										

Exhibit P-3a	lı	ndividual Modification		
MODIFICATION TITLE:	T-39 Wing Replacement (OSIP 28-00)			
MODELS OF SYSTEMS AFFECTED:	T-39N		TYPE MODIFICATION:	Safety

DESCRIPTION/JUSTIFICATION: The T-39 Aircraft is a commercial off-the-shelf aircraft utilized for training Undergraduate Military Flight Officers. The aircraft was structurally reinforced and a Supplemental Type Certificate (STC) was issued to allow the aircraft to fly within the operational envelope. The wings are rapidly approaching expiration of their fatigue life. Wing replacement is mandatory to avoid safety of flight issues. A rotational replacement of wings is required every four years under the existing operational envelope and known data. This modification provides replacement for one rotation with used wings on all 15 T-39 aircraft. This modification also incorporates Fatigue Data Recorders on the wings of 9 of the 15 T-39N aircraft that do not have Recorders already installed. The Fatigue Data Recorders will allow more effective and accurate tracking of the wing fatigue life and help to eliminate a second wing replacement in the future on some of the T-39N aircraft

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The wings are commercially available, non-developmental items (NDI) and will be installed during ACI by the commercial contractor. The Fatigue Data Recorders are a COTS turnkey procurement.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Pr	ior Years	F	Y 2002	F	Y 2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY:	2008	FY2	2009	To Co	mplete	7	Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit	7	2.0	4	1.4	2	0.8	1	0.4														
B Kit			9	0.5																		
XXX Kit																						
XXX Kit																						
Installation Kits N/R																						
Installation Equipment																						l
XXX Equip																						
Installation Equipment N/R																						<u> </u>
Engineering Change Orders																						l
XXX Kit ECO XXX																						<u> </u>
XXX Equip ECO XXX																						l
Data				0.1																		<u> </u>
Training Equipment																						<u> </u>
Support Equipment																						l
ILS																						
Other Support																						<u> </u>
Interim Contractor Support																					$ldsymbol{ldsymbol{ldsymbol{eta}}}$	
Installation Cost	7	1.4	7	1.1	8	1.7	1	0.2														<u> </u>
Total Procurement		3.5		3.1		2.5		0.6														1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																											
MODELS O	F SYSTEMS	AFFEC	CTED:	T-39N Aircra	ft					-	MODII	FICATIO	N TITLE:	T-39 Win	g Replace	ment (OS	IP 28-00)										
INSTALLAT	ION INFORM	MATION	l:																								
METHOD O	F IMPLEMEI	NTATIO	N:								c	oncurrent	with ACI o	or as a Dro	p-in Modifi	cation at C	LS Contra	ctor Depot	Facility								
ADMINISTR	ATIVE LEAD	OTIME:			1		Months				PRODU	CTION L	EADTIM	E:		1		Months									
CONTRACT	DATES:		FY 2002:		Nov	<i>y</i> -01		•	1	FY 2003:			Nov-02		-			F	Y 2004:		No	v-03	_		FY 2005	i:	
DELIVERY	DATE:		FY 2002:		Dec-01			:	1	FY 2003:			Dec-02		-			F	Y 2004:		De	c-03	-		FY 2005	i:	
												(\$ in Millio	ns)													
	Cost:		Pr	rior Years	F	Y 2002	F	Y 2003	FY:	2004	FY 2	2005		2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	Т	OTAL			ļ
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
	& PY (7) kits	S	7	1.4	4																						l
FY 2002			<u> </u>		7	1.1	6	1.3																	_		
FY 2003			1		1		2	0.4																	_		
FY 2004	, ,		-		-				1	0.2															_		
FY 2005 FY 2006					-																				-		
FY 2007																									_		
FY 2008	.,																										
FY 2009																											
To Com	olete () kits																										
TOTAL			7	1.4	4 7	1.1	8	1.7	1	0.2																	
Installatio	n Schedule		F	Y 2002		<u> </u>	FY 2	2003		Ι	FY:	2004		ı	FY 2	2005			FY:	2006		1					
_	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1					
In	7	1	2	2	2	2	2	2	2		1																
Out	7	1	2	2	2	2	2	2	2		1																
													1				1										
			2007		—	FY 2					2009		1	Го													
<u>. </u>	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO												
In Out	-													1		4	1										
Out			<u> </u>	1	1	1	l			l				1	2	4	ı										

Exhibit P-3a		Individual Modification			
MODIFICATION TITLE:	T-44A Avionics Obsolescence (OSIP 05-04)				
MODELS OF SYSTEMS AFFECTED:	T-44A		TYPE MODIFICATION:	Safety	

DESCRIPTION/JUSTIFICATION: The T-44A Avionics are becoming non-supportable due to non-availability of parts. The following avionics systems require replacement: NCS-31A Area Navigation/Control System, AP-106 Autopilot, Flight Director and the RDR-130 Weather Radar. Avionics are being returned from the repair vendor Beyond Economical Repair (BER) due to non-availability of parts. Spare units are not available in the commercial market. IMPACT: As avionics become BER due to lack of parts, spares will be depleted. Lack of avionics will ground aircraft and severely degrade CNATRA's ability to meet Pilot Training Requirements beginning in FY04. Current plans call for T-44 to fly its training mission until 2015.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The T-44 Avionics Obsolescence (OSIP 05-04) to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY2	2009	To Co	mplete	Т	Total .
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A- Kit									12	4.8												
XXX Kit																						
XXX Kit																						
Installation Kits N/R							3	3.6														<u> </u>
Installation Equipment																						<u> </u>
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						<u> </u>
XXX Equip ECO XXX																						<u> </u>
Data								0.3														
Training Equipment							5	2.1	2	0.8												
Support Equipment																						
ILS																						
Other Support								0.1		0.2												├──
Interim Contractor Support	_							0.3		0.3												
Installation Cost	_						3		12	0.7												└
Total Procurement								6.3		6.7												1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																												
MODELS OF	SYSTEM	IS AFFEC	TED:	T-44A							МО	DIFICATIO	N TITLE:	T-44A A	vionics C	bsolescen	ce (OSIP	05-04)										
INSTALLATI	ON INFO	RMATION	:																									
METHOD O	- IMPLEM	ENTATIO	N:												Contractor	Field Team N	Modification	n										
ADMINISTR	ATIVE LE	ADTIME:				1	Months	<u>.</u>			PRODU	CTION LE	ADTIME:			1		Months	<u>.</u>									
CONTRACT	DATES:		FY 2004	:		Nov-03	1	=		FY 2005:			Nov-04		_				FY 2006:		No	v-05	-		FY 200	07:	No	v-06
DELIVERY [DATE:		FY 2004	: <u></u>		Dec-03	1	_		FY 2005:			De	ec-04	_				FY 2006:		De	c-05	_		FY 200	07:	De	c-06
_													(9	in Million	ns)													
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	OTAL				
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
FY 2001	& PY () k	its																										
FY 2002	() kits																											
FY 2003	() kits																											
FY 2004	() kits								3																			
FY 2005	() kits										12	0.7	•															
FY 2006																												
FY 2007	() kits																											
FY 2008	() kits																											
FY 2009	() kits																											
To Comp	lete (40) I	cits																										
TOTAL									3		12	0.7																
Installatio	n Schedul	e	FY 2	2002			EV.	2003			FV	2004			FV	2005			FY 2	000		1						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	ł						
In	311101	<u> </u>	 -	1	1	 '	1	<u> </u>	1	1		1	1	3	3	3	3	<u> </u>			1	1						
Out			1	 							1	1	1	2	4	3	2		Ì									
24.			1	1	1		1	1			· · ·		1		<u> </u>				1			1						
		FY 2	2007			FY	2008			FΥ	2009		1	То	1		Ī											
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	т	OTAL												
In		<u> </u>	 		i	† -	1						•	40	1	55												
Out			1	1	1	1		<u> </u>						40	_	55												
Jui	1		1	1		1	1	1		l .			-															

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	USNTPS T-38 A-C Conversion (OSIP 15-04)			
MODELS OF SYSTEMS AFFECTED:	T-38A Supersonic Jet Trainer		TYPE MODIFICATION:	SAFETY/RELIABILITY

DESCRIPTION/JUSTIFICATION: The T-38A ACFT was introduced into service between 1961 and 1962 and has undergone numerous changes through the years. The Navy has allocated ten aircraft at TPS and relies heavily on the Air Force for engineering and Logistics support. At the close of FY08, the Air Force will have transitioned all of their ACFT to T-38C and the Navy will need to stand up engineering and logistics units for these unique ACFT. Due to the age of the ACFT, O&S costs will increase over the life of the ACFT. The modifications will reduce O&S costs, allow the Navy to continue to utilize engineering and logistics infrastructure of the Air Force, and provide for improved safety of the T-38 aircraft. The Navy plans to utilize the T-38 at USNTPS through 2020 and beyond. Future modifications will include improved wings and ejection seats, currently being developed by the USAF.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All components and systems required for this program are being developed and tested by the USAF. No Navy unique operational testing is anticipated under this program.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY	2007	FY 2	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Ejection Seats																						
Wings									1	0.6												
AUP Kits							3	2.3	2	1.5												
PMP Kits									3	2.7												
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data								0.2														'
Training Equipment																						
Support Equipment																						'
ILS																						'
Other Support								0.2		*												
Interim Contractor Support																						
Installation Cost																						
Installation AUP							3	0.3	2	0.2												
Installation PMP																						
Total Procurement								2.9		5.1												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODELS OF	SYSTEM	IS AFFECT	ΓED:		T-38 JE	Γ TRAINI	ER (OSIF	P 15-04)			MODIF	FICATIO	N TITLE:		AUP											
INICTALLATI	ON INFO	OMATION:					•			•																
INSTALLATI	ON INFOR	RIVIATION:		DEPUT	LEVEL																					
METHOD OI	F IMPLEM	IENTATION	N:	CONCUR	RENT with	PHASE D	EPOT MAII	NTENANCI	E																	
ADMINISTR	ATIVE LE	ADTIME:				1	Months	_			PRODUC	CTION L	EADTIM	E:			6	Months	<u>.</u>							
CONTRACT	DATES:	ı	FY 2002:			N	I/A	-	F	FY 2003:			N	I/A	-				FY 2004:		No	v-03	=		FY 2005:	Nov-04
DELIVERY [DATE:	ı	FY 2002:			N	I/A	_	F	FY 2003:			N	I/A	-				FY 2004:		Ар	r-04	=		FY 2005:	Apr-05
													(9	in Millio	ns)										_	
	Cost:			Years		2002		2003	FY 2		FY 2			2006	FY 2		FY 2		FY 2			mplete		TAL		
<u> </u>			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4	
	& PY () ki	its																							4	
FY 2002 FY 2003	. ,								.														-	1	-	
FY 2003	.,								3	0.3															1	
FY 2005	. ,								3	0.3	2	0.2									-				=	
FY 2006	.,											0.2													1	
FY 2007	.,																									
FY 2008	• •																									
FY 2009																										
	olete () kits	S																								
TOTAL									3	0.3	2	0.2														
Installation)																				_				
	FY 2001		FY 2					2003			FY 2				FY 2					2006		1				
l 	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1				
In Out												2	1			11	1									
Out												2	1			1	Т					1				
l i		FY 20	007			FY	2008			FY:	2009		-	Го			1									
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO1	ΓAL										
In					Ī									5	10	0	1									
Out														5		0	1									

Exhibit P-3a																										
MODELS C	F SYSTEMS	AFFECT	ED:		T-38 Jet	Trainer				-	MODII	FICATIO	N TITLE:		PMP											
NSTALLAT	ION INFORM	MATION:		DEPOT	LEVEL					-																
METHOD C	F IMPLEME	NTATION	l:	CONCUR	RENT with	PHASE D	EPOT MAIN	NTENANCE	E																	
.DMINISTF	ATIVE LEA	OTIME:				1	Months				PRODU	CTION L	EADTIM	E:			9	Months								
CONTRAC [*]	DATES:																		FY 2004.			I/A			EY 2005:	Nov-04
, 0, 1, 1, 1, 1, 0	2711201		. 2002.							2000.					-			,	200			,,,,				
DELIVERY	DATE:	F	Y 2002:		N	I/A		•	1	FY 2003:			N/A		=			1	FY 2004:		N	I/A	•		FY 2005:	Jul-05
-									T					in Millio							1				7	
	Cost:		Prior			2002	FY 2			2004	FY 2			2006	FY 2		FY 2		FY 2			mplete		TAL		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1	
	& PY () kits	3																							4	
FY 2002	. ,																								4	
FY 2003	. ,																								4	
FY 2004	• •																									
FY 2005	. ,																								4	
FY 2006	. ,																								4	
FY 2008	.,																								4	
	. ,																								4	
FY 2009	plete () kits																								1	
TOTAL	piete () Kits																									
Installatio	n Schedule																					1			•	
	FY 2001 & Prior	1	FY 20	3	4	1	2	2003	4	1	FY 2	3	4	1	FY 2	3	4	1	2	2006 3	4					
In	α F1101	- 1		3	4			<u> </u>	4			<u> </u>	4			3	4			3	4	1				
Out																										
																						4				
		FY 20	07			FY:	2008			FY:	2009		7	ō			Î									
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO	ΓAL										
In													2	20	2	0										
Out					1									20	2	0										

P-1 SHOPPING LIST ITEM NO. 40 PAGE NO. 12 of 12

Exhibit P-40, BUDGET ITEM JUSTIFICA	ATION						DATE:							
											F	ebruary 2003		
APPROPRIATION/BUDGET ACTIVITY					P-1 ITEM NOME	NCLATURE								
Aircraft Procurement, Navy/APN-	5 Aircraft Modifica	tions									C-2A(R) Series	Modification		
Program Element for Code B Items:					Other Related	Program Elem	ents							
	Prior	ID									To			
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total		
QTY														
COST (In Millions)	147.9	A	25.1	29.1	35.3	29.5	28.4	25.7	26.0	19.5	34.2	400.7		

This line item funds modifications to 36 C-2A(R) aircraft. The C-2A(R) Greyhound is a high wing monoplane, twin engine turbo-prop aircraft capable of operating from both a shore base and all operational USN aircraft carrier classes. The mission of the C-2A(R) is to provide rapid response Carrier Onboard Delivery (COD) of fleet essential supplies, eppair parts, and personnel to sustain at sea operations of deployed battle groups. In addition, the C-2A(R) pervice aircraft pelluvery and mobilization support for special operations forces from land bases and carriers. The overall goal of the modifications in PY 2004 is to continue initial procurement efforts for the C-2A(R) Service Life Extension Program (SLEP). The design service life of the C-2A(R) is 10,000 light hours with 15,000 landings. The service life remaining on the aircraft is 4,000 light hours with 4,800 landings.

(TOA, \$ in Millions)

OSIP No.	Description	*Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	Total
24-94	C-2A SLEP DERF (Non-Add)	147.9	25.1 1.7	29.1	35.3	29.5	28.4	25.7	26.0	19.5	34.2	400.7 1.7
	Total	147.9	25.1	29.1	35.3	29.5	28.4	25.7	26.0	19.5	34.2	400.7

Note: Totals may not add due to rounding.

- ** For non-add Defense Emergency Response Funds (DERF) was received in FY02 in the amount of \$1.7M in subhead 4A04 to procure qty (2) rewire kits. Funding has been obligated as of 25 March 2002.

 ** For DERF received in FY02 as part of subhead Y5C2 : \$3M was received to procure and install 1 structure kit and 2 Interim AFC kits. Also to install 1 rewire kit.

Exhibit P-3a	Individual Modification
MODIFICATION TITLE:	C.2A(R) RIk Hagrada/Sangre Life Extension Program (OSIP 24.94)

MODELS OF SYSTEMS AFFECTED: C-2A(R) Aircraft TYPE MODIFICATION: SAFETY/SLEP

DESCRIPTION/ II ISTIEICATION

In accordance with ORD 352-88-94 the C-2A(R) Block Upgrade/SLEP will permit extended operations of the total active inventory of 36 aircraft providing the Navy's Carrier Onboard Delivery (COD) beyond its current projected service life. It will also provide for the installation of avionic systems required to improve performance and predude obsolescence during the extended life of this critical Fleet asset. One C-2A(R) has reached 100% of fatigue life in FY00 and over three quarters of the aircraft will be grounded by CY05. This OSIP will provide for OWP structural lariframe structural life including that of Outer Wing Panels (OWPs) will be less than designed life. This OSIP will provide for OWP structural Airframe Change (AFC) enhancements. In addition to the service life structural changes, this upgrade will replace and/or install systems and components (L-Probe/VSI, CAINS II, ARC-210 radios, full face O2 mask, and aircraft wiring) which are documented deficiencies as noted in the final C-2A(R) INSURV report. It is planned that the CAINS II modification will be installed on an accelerated basis in advance of the other SLEP Changes. FY00 Congress in support of the new 8 blade propeller. N88 funded the procurement and the installation of the 8 blade propeller beginning in FY 2002. Incorporation of the NP2000 will eliminate the top three readiness degraders and one of the highest AVDLR cost components on the C-2A. The new Interim AFC requirement in FY01 was directed by the resource sponsor(N88). Based on results of the Full Scale Fatigue Test, it was determined that the C-2(R) usual fall 5 aircraft below the designated Primary Aircraft Authorization(PAA) of 29 aircraft. The Interim AFC mod will change the engine nacelle, wingfold rib, injections ports and horizontal slab of five (6) aircraft to satisfy the PAA. This OSIP includes \$1.7M in FY02 DERF funding to procure two rewire kits. Received POM 04 plus up for NP-2000 in FY04 through FY08. Install funding in creases from FY03 to FY04 is driven by a change in the

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development and operational testing (DT and OT) have been completed for the avionics systems included in this OSIP. DT and OT of the various modifications for the SLEP systems in the C-2A(R) began in FY 1997 and will complete in FY 2003. The Congressional plus-up in FY 2000 for the new 8 blade propeller will provide a program flying analyses, propeller system design, an engine structural load fatigue analysis, and a control system analysis by late FY03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior '	Years		2002	FY 2	003	FY 2	2004	FY 2005		FY 2006	FY 2007		2008		2009		mplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$ Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
L-Probe Kit	36	0.3																		
CAINS II A Kit	36	2.3																		
ARC-210 Kit	8	0.7	10	0.8	9	0.7	9	0.8												
Rewire Kit			4	4.6	4	3.6	4	3.1	4	3.2										
DERF Rewire Kit			2	1.7																
Structure Kit			4	1.7	4	1.7	4	1.7	4	1.8										
DERF Structure Kit			1	0.4																
O2 Mask Kit																				
Interim AFC	5	0.3																		
Interim AFC - DERF			2	0.1																
Enhanced OWP Kit	4	10.8																		
OWP Enhancement Kit	12	2.6	10	2.3	10	2.4	7	1.9	10	2.4										
OWP Conversion Kit	14	2.1	3	0.4	2	0.3														
NP-2000					2	1.3	4	2.2	5	3.9										
Installation Kits N/R		17.8				2.4														
Installation Equipment CAINS II	50	6.1																		
Installation Equipment N/R		4.2																		
Engineering Change Orders																				
Data		9.1		0.3		0.5														
Training Equipment		4.4				0.4		1.7												
Support Equipment		0.8				0.4		0.5												
ILS		4.0		0.2		0.4		1.1		0.7										
Other Support		76.0		3.8		6.8		9.7		3.4										
Interim Contractor Support																				
Installation Cost	85	6.4	30	10.5	25	8.3	25	12.7	31	14.1										
Total Procurement		147.9		26.8		29.1		35.3		29.5										

- otes: 1. Totals may not add due to rounding
 - 2. Enhanced OWP Kit and OWP Conversion Kit installed by fleet.
 - 3. Defense Emergency Response Funds (DERF) funding was received in FY02 in the amount of \$1.7M to procure qty (2) rewire kits. Funding has been obligated as of 25 March 2002.
 - 4. 4 of the 30 installation quantities for FY 02 were funded with DERF.

AND STREMS AFFECTED: C-24(R) MODIFICATION TITLE: Block Liganoide SLEP (OSIP 24-94) - CAINS II / L-Probe NSTALLATION INFORMATION: METHOD OF IMPLEMENTATION: THE PRODUCTION LEADTIME: THE PRODUCTION																									
Description Description	Exhibit P-3a MODELS O		IS AFFEC	TED:	C-2A(R)			-	MOD	IFICATIO	N TITLE:	Block Upg	grade/SLEI	P (OSIP 2	1-94) - CA	INS II / L-	Probe							
DMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 8 Months	INSTALLAT	ION INFOR	RMATION:																						
FY 2003	METHOD O	F IMPLEM	ENTATIO	N:	Cor	ntract																			
FY 2003	ADMINISTR	ATIVE LEA	ADTIME:		1	Months	<u>.</u>			PRODU	CTION L	EADTIME	:		8		Months	<u>.</u>							
Cost:	CONTRACT	DATES:	FY 2002						-		FY 2003:				_	FY 2004:				=	FY 2005:				
Cost:	DELIVERY I	DATE:	FY 2002	:					_		FY 2003:				_	FY 2004:				_	FY 2005:	:			- .
City S City S																(\$ in N	fillions)								
FY 2001 & FY 2002 () kits		Cost:		Prior	Years	FY	2002	FY:	2003	FY	2004	FY	2005	FY 2	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete		TOTAL
FY 2002 () kits				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2004 () kits FY 2006 () kits FY 2006 () kits FY 2007 () kits FY 2007 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 4	FY 2001	& PY (72)	kits	66	2.7	6	0.2																		
FY 2004 () kits	FY 2002	() kits																							
FY 2005 () kits FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2	FY 2003	() kits																							
FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2009 () kits TO Complete () kits TOTAL Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4																									
FY 2007 () kits FY 2008 () kits FY 2009 () kits TO Complete () kits TOTAL Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 3 4 1 1 2																									
FY 2008 () kits FY 2009 () kits TO Complete () kits TOTAL Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 FY 2006 FY 2007 FY 2008 FY 2008 FY 2009 FY 2009 FY 2009 FY 2009 TO TOTAL																									
FY 2009 () kits To Complete () kits To Complet		. ,				1																			
To Complete () kits TOTAL 66 2.7 6 0.2 Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2																									
TOTAL			he																						
Installation Schedule FY 2001		Jiele () Kil	15	66	2.7	, 6	0.2																		
8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 1 3 4 1 1 2 1 3 4 1 1 2 1 3 4 1 1 2 1 3			e								ī				ī								T		
FY 2007			- 1			1				1 4	-1			1 4				1 4				1 4			
FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 Complete TOTAL In 1 1 1 1 1 1 1 72	lo.				3	4	-		3	4	-		3	4	-		3	4	-		3	4	1		
FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 72				6		1	1		 			<u> </u>		 				1		 	1	1	1		
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 72	00.	30	10			1	-			1			1	l			1		•	-		-	J		
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 72			FY 2	007			FY	2008			FY	2009		Т	'n			1							
In 72		1			4	1			4	1			4			то	TAL								
	In													1				1							
					†						<u> </u>							1							
																		-							

Exhibit P-3a																								
MODELS O	FSYSTEM	IS AFFECT	ΓED:	C-2A(R))			-	MOD	IFICATIO	N TITLE	Block Up	grade/SLE	P (OSIP 2	!4-94) - AF	RC-210 Ra	adios							
INSTALLAT	ION INFOR	RMATION:																						
METHOD O	F IMPLEM	ENTATION	٧:	Navy Field	d Modifica	tion Team (FMT)																	
ADMINISTR	ATIVE LEA	ADTIME:		3	Months	<u>.</u>			PRODU	CTION L	EADTIM	Ε:		9		Months	3							
CONTRACT	DATES:	FY 2002:		Jan-02		_	FY 2003:	:		Jan-03		_		FY 2004	:_Jan-04				_	FY 2005	:			
DELIVERY I	DATE:	FY 2002:		Oct-02		_	FY 2003:			Oct-03		_		FY 2004	Oct-04				_	FY 2005	: <u></u>			
															(C:- 1	Millions)								
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	_	2007	FY	2008	FY	2009	To Co	omplete	1	TOTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY (8)	kits	2	0.1	6	0.4																		
FY 2002							10	3.0																
FY 2003									9	0.7	1													
FY 2004											9	0.7												
FY 2005																								
FY 2006																								
FY 2007											ļ			1	ļ	1				-	ļ			
FY 2008																					1		1	
FY 2009	() kits olete () kits	_							-										1					-
TOTAL	olete () Kits	S	2	0.1		0.4	10	0.8	9	0.7	, .	0.7							-					
	n Schedule	e	FY 2	002			FY 2003		•		EV	2004	•		FY 2005	-			EV	2006	•	1	•	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In	2	6				10				5	4			5	4							1		
Out	2	Ť	6				10			Ť	5	4		Ť	5	4			<u> </u>		i e	1		
								•		•	•	•			•						•	-		
		FY 20	007			FY	2008			FY	2009		1	Го			1							
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TC	TAL	_							
ln																36	1							
Out																36	1							
																	_							

Exhibit P-3	3a																							
MODELS	OF S	YSTEMS AFFEC	TED:	C-2A(R)			_	MODI	FICATIO	N TITLE:	Block Up	grade/SLE	P (OSIP 2	4-94) - Str	uctures/Re	ewire							
INSTALLA	OITA	NINFORMATION	:																					
METHOD	OF II	MPLEMENTATIO	N:	Current w	/SDLM																			
ADMINIST	TRAT	IVE LEADTIME:		1	Months	<u>i.</u>			PRODU	CTION L	EADTIMI	≣:			14	Months	<u>.</u>							
CONTRA	CT D	ATES: FY 2002	:		Oct-01		_		FY 2003:		Oct-02	_		FY 2004:		Oct-03		_	FY 2005:		Oct-04		_	
DELIVER	Y DA	TE: FY 2002	:		Jun-02		_		FY 2003:		Dec-03	-		FY 2004:		Dec-04		_	FY 2005:		Dec-05		_	
											•													
ı		Cost:	_	Years		2002		2003		2004		2005		2006		2007	_	2008		2009		mplete		TOTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 20	01 & I	PY () kits																						
FY 20					*4	4.9	9 4	5.0																
FY 20	02 (3)	kit - DERF **					2	2.1																
FY 20	03 (8)	kits							8	10.2														
FY 20	04 (8)	kits									8	10.4												
FY 20	05 (8)	kits																						
FY 20	06 () I	kits																						
FY 20	07 () I	kits																						
FY 20	08 () I	kits																						
FY 20																								
To Co	mplet	te (37) kits																						
TOTA	L				4	4.9) (7.1	8	10.2	8	10.4												
** 2 Re	wire k	s and 2 Rewire ki tits were procured requested for F	with DEI	RF in subl	head 4A0)4 and 1 s					.EP subh	ead Y5C2	. Of the	three (3)	kits, one	Rewire k	it and the	Structure	e kit are s	cheduled	I for insta	llation in		
	F١	/2001	FY:	2002			FY	2003			FY	2004			FY	2005			FY	2006		J		
	8	& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In				2	2		3	3			4	4			4	4						1		
Out					2	2	2	3	3			4	4			4	4							
																						-		
		FY 2	007			FY	2008			FY	2009		1	o			1							
		1 2	3	4	1	2	3	4	1	2	3	4	4	plete	то	TAL								

Exhibit P-3a																								
MODELS O	F SYSTEM	IS AFFEC	TED:	C-2A(R)			_	MOD	IFICATIO	N TITLE:	Block Up	grade/SLE	P (OSIP 2	4-94) - Ou	ter Wing I	Panel Ent	nancement						
INSTALLAT	ION INFOR	RMATION:																						
METHOD O	F IMPLEM	ENTATIO	N:	Navy For	ced Retrof	it Compone	ent																	
ADMINISTR	ΔTIVE LEA	ADTIME:		1	Months				PRODU	ICTION L	FADTIME	=.			4	Months	,							
/ DIVINITION	(/\IIVE EE/	TOTTIVIE.			WOTHER	<u>-</u>			TRODO	OTION	LADIIIVIL				-	WOTHER	<u>-</u>							
CONTRACT	T DATES:	FY 2002:	:		Oct-01				FY 2003	:	Oct-02					FY 2004	:	Oct-03	3		FY 2005:	:	Oct-04	
														_						_				
DELIVERY	DATE:	FY 2002:	:		Feb-02		_		FY 2003	:	Feb-03			_		FY 2004	:	Feb-04	ı	_	FY 2005:		Feb-05	i
_																fillions)	1 _					-	1	
-	Cost:			Years		2002	_	2003	_	2004		2005		2006		2007		2008		2009	_	mplete	01::	TOTAL
EV 2004	& PY (12)	l.ia.	Qty	\$ 2.8	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
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FY 2003						, 2.0	10	2.5						1			1	1			1		1	
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FY 2005											10	2.6												
FY 2006	() kits																							
FY 2007																								
FY 2008																								
FY 2009							1	-	1	-								1		-	1		-	
TOTAL	plete (23) ł	kits																						
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TOTAL			12	2.8	5 10	J 2.:	10) 2.:) /	1.8	10	2.6		1										
Installatio	n Schedule	е																						
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	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
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Out	12	4	l .	2	4	4		2	4	4		2	2	4		2	4							
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Exhibit P-3a																										
MODELS OF	SYSTEM	S AFFECT	ΓED:	C-2A(R)			_	MODI	FICATIO	N TITLE:	Block Up	grade/SLE	P (OSIP 2	4-94) - NF	P-2000										
NSTALLATIO	ON INFOR	RMATION:																								
METHOD OF	IMPLEM	ENTATION	N:	Current v	w/SDLM/Dr	ive in Mod																				
ADMINISTRA	TIVE LEA	ADTIME:		1	Months	<u>s</u>			PRODU	CTION L	EADTIME	≣:			12	Months	_									
CONTRACT	DATES:	FY 2002:			N/A		_		FY 2003:		Oct-02					FY 2004:		Oct-03			_	FY 2005:		Oct-0	4	
DELIVERY D	ATE:	FY 2002:			N/A				FY 2003:		Oct-03					FY 2004:		Oct-04				FY 2005:		Oct-0	5	
							_							-							_					
	Cost:		Prior	Years	FY	2001	FY	2002	FY:	2003	FY	2004	FY:	2005	FY	2006	FY	2007	FY	2008	FY	2009	T	o Complete	Т	OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001		its																								
FY 2002																										
FY 2003									1	0.1	1	0.1														
FY 2004								1					4	0.3												
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FY 2007					1		1	1											1		1				+	1
FY 2008					1			+	1																+	1
To Comp		kite					1	1												-						
TOTAL	ete (TT)	KIIS						1	1	0.1	-	0.1	4	0.3											+	1
Installation)																				-				
	FY 2001		FY 2		,			2003				2004				2005				2006						
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In						1		1	ļ	1				2	2	ļ				ļ		Į.				
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ļ		FY 20					2008				2009		4	0	l _											
	1	2	3	4	1	2	3	4	1	2	3	4		plete	_	TAL	l									
ln .			<u> </u>	1		ļ	1	 				<u> </u>		25		36										
Out					<u> </u>	l		<u> </u>			l		2	25		36	j									

Exhibit P-40, BUDGET	ITEM JUSTIFICATION	I							DATE:			
											February 200	3
APPROPRIATION/BUDGET	ACTIVITY						P-1 ITEM NOMEN	NCLATURE				
Aircraft Procurement, Na	vy/APN-5 Aircraft Modi	fications								C-130	SERIES	
Program Element for Code B	Items:						Other Related	Program Elem	ents			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	44.5	A	5.2	6.1	6.6	15.5	21.6	33.2	28.6	29.6	68.9	259.8

This item funds modifications to C/KC-130 aircraft. The Lockheed C/KC-130 aircraft is a four engine, high-wing, all metal, long range, land based monoplane capable of all weather transport of cargo or personnel and in-flight refueling. There are currently 98 aircraft in the Navy and Marine Corps inventory (50 active and 48 reserve). The expected Service Life is as follows:

T/M/S	Service Date	Service Life	Expected Life
C-130T	10/91 - 11/95	450 mos.	2028-2032
KC-130F	3/60 - 11/62	504 mos.	2002-2008
KC-130R	9/75 - 6/78	432 mos.	2011-2014
KC-130T	4/84 - 2/96	450 mos.	2021-2033
TC-130G	1/64	216 mos.	1982-TBD

(TOA, \$ in Millions)

										To	
Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
ARC-210 RADIO SYSTEM	7 1	1.6	1 9	2 7	2.6	0.5					16.5
NIGHT VISION LIGHTING (NVL)	8.0	0.1	0.5	1.4	1.9	0.5					11.8
SAFETY IMPROVEMENT PGM (SIP)	25.8	3.4									29.2
VISUAL SIMULATOR UPGRADE	3.7	0.1									3.7
ONS REPLACEMENT			3.8								3.8
AVIONICS MODERNIZATION PGM				2.4	11.0	21.1	33.2	28.6	29.6	68.9	194.8
Total	44.5	5.2	6.1	6.6	15.5	21.6	33.2	28.6	29.6	68.9	259.8
	1	2.0	0.3	2.6	11.6	21.0	33.3	28.6	29.6		
	ARC-210 RADIO SYSTEM NIGHT VISION LIGHTING (NVL) SAFETY IMPROVEMENT PGM (SIP) VISUAL SIMULATOR UPGRADE ONS REPLACEMENT AVIONICS MODERNIZATION PGM Total	ARC-210 RADIO SYSTEM 7.1 NIGHT VISION LIGHTING (NVL) 8.0 SAFETY IMPROVEMENT PGM (SIP) 25.8 VISUAL SIMULATOR UPGRADE 3.7 ONS REPLACEMENT AVIONICS MODERNIZATION PGM Total 44.5 Reserve funding included in total	ARC-210 RADIO SYSTEM 7.1 1.6 NIGHT VISION LIGHTING (NVL) 8.0 0.1 SAFETY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT AVIONICS MODERNIZATION PGM Total 44.5 5.2 Reserve funding included in total 2.0	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 SAFETY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM Total 44.5 5.2 6.1 Reserve funding included in total 2.0 0.3	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 2.7 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 1.4 SAFETY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM Total 44.5 5.2 6.1 6.6 Reserve funding included in total 2.0 0.3 2.6	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 2.7 2.6 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 1.4 1.9 SAFETY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM 2.4 11.0 Total 44.5 5.2 6.1 6.6 15.5 Reserve funding included in total 2.0 0.3 2.6 11.6	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 2.7 2.6 0.5 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 1.4 1.9 SAFETY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM 2.4 11.0 21.1 Total 44.5 5.2 6.1 6.6 15.5 21.6 Reserve funding included in total 2.0 0.3 2.6 11.6 21.0	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 2.7 2.6 0.5 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 1.4 1.9 SAFSTY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM 2.4 11.0 21.1 33.2 Total 44.5 5.2 6.1 6.6 15.5 21.6 33.2 Reserve funding included in total 2.0 0.3 2.6 11.6 21.0 33.3	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 2.7 2.6 0.5 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 1.4 1.9 SAFSTY IMPROVEMENT PCM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM Total 44.5 5.2 6.1 6.6 15.5 21.6 33.2 28.6 Reserve funding included in total 2.0 0.3 2.6 11.6 21.0 33.3 28.6	ARC-210 RADIO SYSTEM 7.1 1.6 1.9 2.7 2.6 0.5 NIGHT VISION LIGHTING (NVL) 8.0 0.1 0.5 1.4 1.9 SAFSTY IMPROVEMENT PGM (SIP) 25.8 3.4 VISUAL SIMULATOR UPGRADE 3.7 0.1 ONS REPLACEMENT 3.8 AVIONICS MODERNIZATION PGM 44.5 5.2 6.1 6.6 15.5 21.6 33.2 28.6 29.6 Reserve funding included in total 2.0 0.3 2.6 11.6 21.0 33.3 28.6 29.6	PRIOR PRIO

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	AN/ARC-210 RADIO (OSIP 02-92)			
MODELS OF SYSTEMS AFFECTED:	C-130T, KC-130F/R/T		TYPE MODIFICATION:	Performance Enhancement HONA Category C)

DESCRIPTION/JUSTIFICATION: The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for Electronic Protection (EP) interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. Baseline for this program is GPS (OSIP 25-92). This modification is covered by a singular ECP (C-130-99) and will be incorporated in 44 C-130 aircraft (18 active and 26 recurring installs. This OSIP covers the remaining 21 kits and 17 aircraft installs plus the 21 retrofit kits with installs. This OSIP covers do Apr 93, ORD 333-06-093.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ARC-210 radio replaces the AN/ARC-159 radios in the C-130 aircraft. Validation/verification was performed during FY 1994-FY 1996. FOT&E was performed in FY97 for the KC-130F and KC-130R configurations. Recurring production installations started in April 1997. The previous program plan called for 91 total aircraft (77 to be equipped with 1556 radios and 14 aircraft to be equipped with 1794C radios that were SATCOM capable). Reduction in quantity from 91 to 84 was based on the plan to retire KC-130F aircraft as they are replaced by KC-130J aircraft. Changes in the technical requirements for SATCOM capability have caused us to alter the program and install the 1794C in all aircraft. OSIP had been changed to reflect SATCOM incorporation in all 84 aircraft (of which four were to be funded under a Common Avionics OSIP). Twenty-one aircraft previously modified will have to be retrofitted with the 1794C capability (The 21 reflects the 1556 kits acquired in FY98 and prior). Recurring installs should begin 3rd Quarter FY03. Quantity of affected aircraft has been further reduced from 84 to 44 (18 Active and 26 Reserve) due to the increased numbers of KC-130J aircraft and the start of the AMP program (OSIP 13-04) in FY04.

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
A Kit	32	2.3	1	0.1	2	0.2	5	0.5	2	0.2												
CDNU Components	2	0.2	6	0.5	6	0.5	14	1.4	14	1.4												
Installation Kits N/R		1.5																				
Installation Equipment		0.4																				
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.2						0.1		0.1												
Training Equipment	1	*					1	0.1	3	0.3												
Support Equipment		0.1																				
ILS		0.2								0.1												
Other Support		0.6		0.8		0.9		0.2		0.5												<u> </u>
Interim Contractor Support													<u> </u>									<u> </u>
Installation Cost	23	1.7	2	0.1	4	0.2	7	0.5	4	0.1												l
Total Procurement		7.1		1.6		1.9		2.7		2.6												

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

За																									
OF SYSTEM	MS AFFE	CTED:	C-130T,	KC-130	F/R/T					MODI	FICATION	N TITLE:	AN/ARC-	210 ECCN	1 RADIO (OSIP 02-9)2)								
ATION INFO	RMATION	۱:																							
OF IMPLEM	MENTATIO	ON:										Installation	will be ac	complishe	d by Comm	nercial FMT	(2 radios į	er aircraft).						
TRATIVE LE	ADTIME:				3	Months	-			PRODU	CTION LE	EADTIME	:		8	3	Months								
CT DATES:		FY 2002:		De	c-01		-	í	FY 2003:		Dec	:-02					F	Y 2004:		Dec-03				FY 2005:	Dec-04
Y DATE:		FY 2002:		Au	g-02		-	F	Y 2003:		Aug	j- 03					F	Y 2004:		Aug-04				FY 2005:	Aug-05
												(\$ i	n Millions	s)											
Cost:			1																						
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4	
- ',	kits	23	1.7	2	0.1	4	0.2	3																	
		+						1																	
		1		1					0.2		0.1									ł					
								 '		- 4	0.1	2	0.2												
													0.2												
08 () kits																									
09 () kits																									
mplete () ki	ts																								
L		23	1.7	2	0.1	4	0.2	7	0.5	4	0.1	2	0.2												
tion Schedu	le			NOTE:	PMA209	bought a	and insta g 21 insta	lled 1F ar all kits in I	nd 1R ret FY04, 13	ro kits in l	-Y94				configura	tion. The	e kit will b	e used fo	or the Sol	ftware Int	egration	Laborato	ry.		
FY 2001		1																							
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
23		-		2	.		2	2		1	3	3		1	2	1									
21			2		2			2	2		1	3	3		1	2									
	EV.	2007		1	EV :	2008		1	EV.	2000		т	0												
1			4	1			4	1			4			TO	ΓΑΙ										
+		 	_				-	- '-		J	-	55111	p.510												
														4	0										
	ATION INFO OF IMPLEM TRATIVE LE CT DATES: Y DATE: Cost: 01 & PY () 02 () kits 03 () kits 04 () kits 05 () kits 06 () kits 07 () kits 08 () kits 09 () kits mplete () kit L fy 2001 & Prior	OF SYSTEMS AFFECT ATION INFORMATION OF IMPLEMENTATION OF IMPLEMENTATION TRATIVE LEADTIME: CT DATES: Y DATE: Cost: 01 & PY () kits 02 () kits 03 () kits 04 () kits 05 () kits 06 () kits 07 () kits 08 () kits 09 () kits 09 () kits mplete () kits tion Schedule FY 2001 & Prior 1 23 21 FY:	OF SYSTEMS AFFECTED: ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: CT DATES: FY 2002: Y DATE: FY 2002: Cost: Prior Qty 01 & PY () kits 23 02 () kits 03 () kits 04 () kits 05 () kits 06 () kits 07 () kits 08 () kits 09 () kits mplete () kits mplete () kits tion Schedule FY 2001 FY 2 & Prior 1 2 23 21 FY 2007	OF SYSTEMS AFFECTED: C-130T, ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: CT DATES: FY 2002: Y DATE: FY 2002: Cost: Prior Years Qty \$ 01 & PY () kits 23 1.7 02 () kits 03 () kits 04 () kits 05 () kits 06 () kits 07 () kits 08 () kits 09 () kits 09 () kits mplete () kits tion Schedule FY 2001 FY 2002 & Prior 1 2 3 23 1 21 2 2 FY 2007	OF SYSTEMS AFFECTED: C-130T, KC-130 ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: CT DATES: FY 2002: De Y DATE: FY 2002: Au Cost: Prior Years FY Qty \$ Qty 01 & PY () kits 23 1.7 2 02 () kits 03 () kits 04 () kits 05 () kits 06 () kits 07 () kits 08 () kits 09 () kits mplete () kits mplete () kits Trative Leadtime: NOTE: NOTE:	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3 CT DATES: FY 2002: Dec-01 Y DATE: FY 2002: Aug-02 Cost: Prior Years FY 2002 Qty \$ Qty \$ 01 & PY () kits 23 1.7 2 0.1 02 () kits 03 () kits 06 () kits 07 () kits 08 () kits 09 ()	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3 Months CT DATES: FY 2002: Dec-01 Y DATE: FY 2002: Aug-02 Cost: Prior Years FY 2002 FY: Qty \$ Qty \$ Qty \$ Qty 01 & PY () kits 23 1.7 2 0.1 4 02 () kits 03 () kits 06 () kits 06 () kits 07 () kits 08 () kits 09 (OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3 Months CT DATES: FY 2002: Dec-01 Y DATE: FY 2002: Aug-02 Cost: Prior Years FY 2002 FY 2003 Qty \$ Qty \$ Qty \$ 01 & PY () kits 23 1.7 2 0.1 4 0.2 02 () kits 03 () kits 06 () kits 06 () kits 07 () kits 08 () kits 09 () kits	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3 Months CT DATES: FY 2002: Dec-01 FY 2003 FY 2003 OR OR OR OR OR OR OR OR OR OR OR OR OR O	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3 Months PRODUCT TO ATES: FY 2002: Dec-01 FY 2003: Y DATE: FY 2002: Aug-02 FY 2003 FY 2004 FY 2003 Ot & PY () kits Ot (OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3 Months PRODUCTION LE CT DATES: FY 2002: Dec-01 FY 2003: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 Qty Qty Qty Qty Qty Qty Qty Qty Qty Qty	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ATION INFORMATION: OF IMPLEMENTATION: TRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: AN/ARC-ATION INFORMATION: OF IMPLEMENTATION: Installation will be ac TRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM ATION INFORMATION: OF IMPLEMENTATION: Installation will be accomplished IRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (NOTION INFORMATION: OF IMPLEMENTATION: STRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-6 ATION INFORMATION: Installation will be accomplished by Commercial FMI Installation will be accompliance Installation will be accompliance Installation will be accompliance Installation will be accompliance Insta	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-92) ATION INFORMATION: OF IMPLEMENTATION: Installation will be accomplished by Commercial FWT (2 radios)	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC 2:10 ECCM RADIO (OSIP 02-92) ATION INFORMATION: OF IMPLEMENTATION: Installation will be accomplished by Commercial PMT (2 radios per aircraft properties) TRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130FR/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-92) ATION INFORMATION:	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-92) ATION INFORMATION:	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-92) ANTON INFORMATION: OF IMPLEMENTATION: Installation will be accomplished by Commercial FMT (2 radios per alterally). TRATIVE LEADTIME: 3	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-92) ANTON INFORMATION:	OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T MODIFICATION TITLE: ANARC-210 ECCM RADIO (OSIP 02-92) ANTON INFORMATION:	OF SYSTEMS AFFECTED: C-130T, KC-130FR/T MODIFICATION TITLE: ANARC2:10 ECCM RADIO (OSIP 02-92) AND PRODUCTION LEADTIME: 8 Months PRODUCTION LEADTIME: 8 Months TRATIVE LEADTIME: 9 Y 2002: Dec-01 FY 2003: Dec-02 FY 2004: PY 2005: FY 2006: FY 2006: FY 2006: PY 2006: FY 2006: PY 2006

xhibit P-3a	Individual Modification
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MODIFICATION TITLE: KC-130 NIGHT VISION LIGHTING (NVL) (OSIP 09-94)

MODELS OF SYSTEMS AFFECTED: KC-130F/R/T and OPS Trainer TYPE MODIFICATION: Performance Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: The KC-130 has no NVL capability to support flight operations to accomplish tactical missions at night. The lack of NVL capability creates significant interoperability problems with other Night Vision Display (NVD) capable aircraft. Incorporation of a non-developmental NVL system, that has been prepared for other USMC/USAF tactical aircraft and is compatible with KC-130 tactical missions and avionics, will alleviate this critical shortfall and allow the accomplishment of tactical missions without unnecessarily jeopardizing the crew's safety and the safety of the aircraft. This modification will allow C-130 aircraft to navigate visually at night at low altitudes (using night vision and rear vision devices), aerial refuel at night with Night Vision Goggle (NVG) capable receivers, conduct clandestine (NVD only) tactical landings and takeoffs from austere sites, conduct ground refueling (using rapid ground refueling pods) and air-landed support operations. This modification is covered by a singular ECP and will be incorporated in 17 aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The initial in-production engineering change proposal to incorporate non-developmental NVL in USMCR KC-130T aircraft was funded with NG&RE. Design/development of retrofit aircraft affected by this OSIP was originally based on the KC-130T NG&RE program. Development commenced in FY 1994 with procurement of two trial kits that were installed in FY 1995. Funding constraints delayed continuation of this program. Limited funds were required in FY97/98 to provide Maintenance Plans, pubs, and other logistics support for the aircraft already fielded. A newly competed contract has allowed us to restart this program in FY00 with non-recurring engineering, kit manufacture, and installation. First four recurring kits were purchased in FY00 and one val/ver install was completed. Technical difficulties during the install delayed DT and the remaining FY00 installs. Two additional val/ver installs were completed in FY01. The last val/ver install will be completed in FY02 with recurring installs to begin FY03. The quantity of affected aircraft has been reduced from 24 to 17 (15 Active and 2 Reserve) due to the start of the Avionics Modernization Program (AMP) program (OSIP 13-04).

FINANCIAL PLAN: (TOA, \$ in Millions)

IIVAIVOIALT LAIV. (TOA, \$ IIIT		Years	FY:	2002	FY 2	2003	FY:	2004	FY:	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit	11	3.7					3	0.9	3	1.1												
Installation Kits N/R		1.8																				
Installation Equipment		0.3																				Ь
Equip																						
Installation Equipment N/R																						<u> </u>
Engineering Change Orders																						
Data		0.1						0.1		0.3												
Training Equipment		0.1						*														L
Support Equipment		*																				<u> </u>
ILS		0.2						0.1		0.2												<u> </u>
Other Support	-	0.5		*																		<u> </u>
Interim Contractor Support	<u> </u>																					
Installation Cost	5	1.3		0.1	5	0.5	3															—
Total Procurement		8.0		0.1		0.5		1.4		1.9												<u> </u>

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a																										
ODELS OF	SYSTEM	S AFFEC	TED:	KC-130	F, KC-13	0R, KC-1	30T, traiı	ner			MODI	FICATIO	N TITLE:	Night Visi	ion Lightin	g (NVL) (C	SIP 09-94	4)								
NSTALLATIO	ON INFOR	RMATION:																								
IETHOD OF	IMPLEM	ENTATION	N:										Inst	allation wil	l be accom	plished by	Contractor	r Field Mod	Team							
DA MA MOTO		DT1145									PROPU	0710111														
.DMINISTRA	ATIVE LEA	ADTIME:			3		Months	-			PRODU	J HON LE	EADTIME	::		7		Months								
ONTRACT I	DATES:		FY 2002:	:	De	c-01		=	F	-Y 2003:					_			F	Y 2004:		Dec-03		=		FY 2005:	Dec-04
ELIVERY D	ATE:		FY 2002:		Ju	I-02			,	FY 2003:								F	Y 2004:		Jul-04				FY 2005:	Jul-05
								•							•				•				•			
	Cost:		Prior	Years	EV	2002	EV	2003	EV	2004	EV	2005		n Millions 2006	ri e	2007	EV 1	2008	EV	2009	To Co	mploto	то	TAL	7	
	COSI.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	s \$	Qty	\$	-	
FY 2001 8	& PY () ki	its	5		1	0.1	5										,		,		,				1	
FY 2002 (
FY 2003 (() kits]	
FY 2004 ((3) kits								3	0.3																
FY 2005 (. ,									L	3	0.4													_	
FY 2006 (.,								ــــــ		<u> </u>	<u> </u>											<u> </u>	Ь—	_	
FY 2007 (-		<u> </u>	<u> </u>		<u> </u>		<u> </u>					<u> </u>						_	4	
FY 2008 (1			 		ļ	├──		 												lacksquare		4	
FY 2009 (To Compl	.,		1			\vdash			 	<u> </u>	<u> </u>												igwdot	_	-	
TOTAL	iele () Kils	•	5	1.3	1	0.1	5	0.5	3	0.3	3	0.4	_										 		-	
TOTAL				1.0		0.1		0.0		0.0	<u> </u>	0.4			L										4	
Installation	Schedule	e																								
F	FY 2001		EV	2002			EV '	2003			EV	2004			EV	2005			EV	2006		l				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In	5		1 -	1		 	1	2	2		1	1	1		1	1	1									
Out	5				1			1	2	2		1	1	1		1	1									
																	U									
		FY 20		,			2008		ــــــ		2009		1	o												
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete		TAL										
In -				ļ		—	ļ	ļ	ـ—	—		<u> </u>			_	7										
Out									Щ_						,	6										

xhibit P-3a	Individual Modification
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MODIFICATION TITLE: SAFETY IMPROVEMENT PROGRAM (OSIP 19-98)

MODELS OF SYSTEMS AFFECTED: C-130F,R/T, TC-130G, TRAINERS TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: This OSIP represents several safety related modifications to various C-130 aircraft.

- 1. Bleed Air Ducts/Overheat Detection System (ODS). During FY98, a modification was begun to replace critical bleed air ducts and install an improved Overheat Detection System. The bleed air system uses high pressure and high temperature bleed air from the compressor of all engines to pressurize the fuselage, provide heating and air conditioning, remove ice from the wings and tail section, and many other uses. Bleed air duct failures are the top emerging hazard to safe operations of C/KC-130 aircraft in the Department of the Navy. Leaks in the system, often undetected, can cause severe heat damage. This modification replaces bleed air ducts in 61 older aircraft (51 active and 10 reserve), using inconel ducts wherever available. To identify potential failures, this modification also installs an improved overheat detection system in 99 aircraft (51 active and 48 reserve). This system consists of a continuous loop sensor wire that will provide real time bleed air leak detection warnings to flight crews. The system will detect overheat conditions occurring in hidden structural areas and allow the crew to control serious collateral heat damage.
- 2. Propeller Valve Housing. Older model prop valve housing governors fail during flight causing the engine to be shut down. The replacement governor uses a dual bearing configuration which greatly reduces bearing failure. This modification is required in 99 aircraft (51 active and 48 reserve).
- 3. LOX Heat Exchanger. An Air Force Study, resulting from several mishaps, has determined that the existing flat plate type liquid oxygen heat exchanger is insufficient to heat the amount of oxygen necessary to support the full crew in the event of a mishap requiring 100% oxygen. A higher capacity coil type heat exchanger is required. This modification removes the flat plate type and replaces it with a coil type heat exchanger. It is required on the 49 aircraft.
- 4. IFR Pump Replacement. On 7 March 1997, a fire inside a fuselage tank during aerial refueling of a F-18 aircraft brought attention to a deficiency with the design of the current IFR pump. Investigation revealed three similar incidents with USN and USMC aircraft caused by a design deficiency in the sealed upper bearing. This modification effects 78 aircraft (51 active and 28 reserve).
- 5. Towed Parachute Retrieval System (TPRS). USN/USMC C/KC-130 aircraft are currently operating under an N85 restriction limiting paratrooper weight to 250 pounds for static-line door exits; CNO Washington DC 251626Z Oct 99 refers. This policy restricts retrieving most combat-equipped jumpers and thus hampers realistic training. Installation of this system (currently in use by the USAF) allows for retrieval of paratroopers weighting up to 400 pounds. A Class One ECP is in development and effects 36 aircraft.
- 6. Hose Reel Barrier. A hose reel barrier is being installed on all ARS pumps to prevent miswrap of the hose. This miswrap causes wear to the hose and failure. This failure has resulted in one onboard fire. This mod is required for 78 tanker aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 1. Bleed Air Duct/Overheat Detection System. Non-recurring engineering and design as well as procurement of the kits began in FY98 via a turn-key contract with the OEM (Lockheed). Validation/verification was performed during second quarter FY99. Recurring installs began FY98. Program Completed in FY01.

- 2. Propeller Valve Housing. Solution identified and first procurement contract for valves was placed during FY99. Recurring installations began in the 4th quarter of FY99. Program completed FY01.
- 3. LOX Heat Exchanger. Program will be initiated during 1st guarter FY02. Validation/verification expected 3rd guarter with recurring installs complete by the end of FY02.
- 4. IFR Pump Replacement. Non-recurring engineering began FY01. Validation/Verification expected by 4th quarter FY01 with recurring installations to complete FY02.
- 5. TPRS. These items are currently in use by the USAF and can be manufactured at Warner Robins ALC, GA. Items were procured 3rd quarter FY00 and were provided to the affected squadrons for O-Level install during 4th quarter .
- 6. Hose Reel Barrier. This is a commercial item developed by the ARS pump manufacturer. All barriers will be purchased and installed during FY02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY:	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Bleed Air Duct Kit	61	6.7																				
ODS Kit	99	5.5																				<u> </u>
Prop Valve Kit	99	3.5																				<u> </u>
Towed Parachute Retrieval Kit	36	0.1																				
APR-39A(V)2 Wiring Kit	22	*																				
LOX Heat Exchanger Kit			49	0.3																		
IFR Pump Kit	29	0.6	49	2.0																		
Hose Reel Barrier Kit			78	0.2																		
Installation Kits N/R		2.0		0.3																		
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1		0.1																		
Training Equipment	3	*																				
Support Equipment																						
ILS		*		0.1																		<u> </u>
Other Support		0.6		0.3																		<u> </u>
Interim Contractor Support																						
Installation Cost	188	6.7	49	0.2																		
Total Procurement		25.8		3.4																		1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a						•					•									•	•		•		
MODELS O	F SYSTEM	IS AFFEC	CTED:	C-130T,	KC-130I	F/R/T, TC	-130G			_	MODI	FICATIO	N TITLE:	SAFETY	/ IMPRO\	'EMENT	PROGRA	AM (OSIF	19-98)						
NSTALLAT	ION INFOR	RMATION	l:																						
METHOD C	F IMPLEM	ENTATIO	DN:												De	pot Level I	FMT								
																•									
ADMINISTF	RATIVE LEA	ADTIME:			7		Months	-			PRODU	CTION L	EADTIME	i:		2		Months	•						
CONTRACT	DATES:		FY 2002:		Ар	r-02		_		FY 2003:					_				FY 2004:				=		FY 2005:
DELIVERY	DATE:		FY 2002:		Jur	n-02				FY 2003:								ı	FY 2004:						FY 2005:
								•							-								_		
B			-		-								(\$ i	n Million	s)										=
	Cost:		_	Years		2002		2003		2004	FY	2005	FY 2	2006	FY 2	2007		2008		2009		mplete		TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY () ki	its	188	6.7																					
FY 2002					49	0.2																			
FY 2003	. ,																								
FY 2004																									
FY 2005	. ,																								
FY 2006																									
FY 2007																									
FY 2008	. ,																								
FY 2009																									
	plete () kits	S																							4
TOTAL			188	6.7	49	0.2]
Installatio	n Schedule	e																							
	FY 2001		FY 2				FY:	2003			FY	2004			FY 2	2005			FY 2	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	188		15	17	17																				
Out	188			15	17	17																			
																	ı								
		FY 2		1			2008	Ti .			2009		1	o											
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO										
In															23										
Out		1		i		1	l	I	I	1	l	1	I		23	7									

Exhibit P-3a	Individual Modification
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MODIFICATION TITLE: VISUAL SYSTEM UPGRADE FOR SIMULATORS (OSIP 19-00)

MODELS OF SYSTEMS AFFECTED: KC-130F/R VISUAL SIMULATORS (2F107 + 2F152) TYPE MODIFICATION: Performance enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: Funds are provided to procure visual system upgrades to the visual flight simulators located at Miramar and Cherry Point. The existing visual systems are fifteen years old and are based on 1960's technology. They are no longer supported by the OEM. Reliability and maintainability issues are the main reason for upgrade to 1990's technology. They presently cannot network with other simulators because of incompatible databases.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This will be a competitive contract award through NAWC TSD, Orlando FL. Contracts were awarded during FY00. Work was scheduled to complete in FY01. Technical problems and contractor delays extended this effort into FY02. Additional funding was required in FY02 to monitor the effort. Completion expected in 3rd Quarter FY02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit																						
Installation Kits N/R		1.9																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment	2	1.2																				
Support Equipment																						
ILS		*																				
Other Support		0.1		0.1																		
Interim Contractor Support																						
Installation Cost	2	0.5																				
Total Procurement		3.7		0.1																		

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																									
MODELS C	F SYSTEM	S AFFEC	TED:	KC-130F/	/R VISUAI	L SIMULA	TORS (2F	107 + 2F1	52)	-	MODI	FICATIO	N TITLE:	VISUAL:	SIMULATO	R UPGR	ADE (OSIF	P 19-00)							
NSTALLAT	ION INFOR	RMATION	l:																						
METHOD C	F IMPLEM	ENTATIO	NI:											urn Kov C	ontract for	NPE proce	romont ar	nd inetallat	ion						
VIL II IOD C														un ney o	OTHER GOLF TO	HILL, PIOCE	irement, ai	na matanat	1011						
ADMINISTE	RATIVE LEA	ADTIME:					Months	-			PRODU	CTION LI	EADTIME	:				Months	-						
CONTRAC	Γ DATES:		FY 2002:					_	1	FY 2003:					_			1	FY 2004:				_		FY 2005:
DELIVERY	DATE:		FY 2002:						ı	FY 2003:									FY 2004:						FY 2005:
								-						n Millions	_								_		
	Cost:		Prior	Years	EV	2002	EV '	2003	EV	2004	EV.	2005	FY 2		FY 2	2007	EV ′	2008	EV.	2009	To Co	mplete	TO	TAL	1
	0031.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
EV 200	I & PY () ki	ite	2		Qty	Ι Ψ	Qty	Ψ	Q.i.y	Ψ	Qty	Ψ	Qty	Ψ	Qty	Ψ	Qty	Ψ	Qty	Ψ	Qiy	Ψ	Qiy	1	1
FY 2002		113		0.5					-																1
FY 2003	.,																								1
FY 2004	.,		1																						1
FY 200			1																						1
FY 2006	6 () kits																								
FY 2007	7 () kits																								
FY 2008	3 () kits]
FY 2009	. ,																								
	plete () kits	3	<u> </u>						—																
TOTAL			2	0.5					<u> </u>																J
Installatio	on Schedule	e																							
	FY 2001		FY 2	002			FY 2	2003			FY:	2004			FY 2	2005			FY 2	2006		Ì			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	2								<u> </u>	ــــــ															
Out			2							Щ_															
		FY 2			<u> </u>		2008		<u> </u>		2009			0											
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO										
ln .			-						└	<u> </u>					- 2										
Out									Ь	<u> </u>					- 2	2									

Exhibit P-3a	Individual Modification
EXNIDIL P-3a	individual Modification

MODIFICATION TITLE: KC-130 Onboard Navigation System (ONS) Replacement. (OSIP 11-03)

MODELS OF SYSTEMS AFFECTED: KC-130F and KC-130R TYPE MODIFICATION: Obsolescence

DESCRIPTION/JUSTIFICATION: This modification affects 25 KC-130 F and 13 KC-130R aircraft that have one LTN-72 and one LTN-211 installed. The KC-130F/R aircraft require two independent means of navigation for transoceanic missions. The LTN-211 OMEGA system was eliminated in 1997. LTN-211 are being replaced with LN-100 Replacement Inertial Navigation Units (RINU).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The LN100 is a replacement for the LTN211 and the install is accomplished at O-level. The items will be procured and provided to the affected squadrons for installation in FY03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit					38	3.7																
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS						*																
Other Support						0.1																
Interim Contractor Support																						
Installation Cost																						
Total Procurement						3.8																

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04)		
MODELS OF SYSTEMS AFFECTED:	C-130T, KC-130T	TYPE MODIFICATION:	Safety

DESCRIPTION/JUSTIFICATION: Objectives of the AMP program are to lower the cost of ownership and increase survivability of the U.S. military's C-130 fleet, while complying with Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) requirements, improve the overall electrical system and modernize the cockpit. Additional equipment needed to meet Night Vision Lighting (NVL) requirements, Defensive Electronic Countermeasures (DECM), will be fully integrated with the inclusion of newer, faster and more robust data processing systems. Additional improvements to the C-130's precision approach and landling capability will also be installed, as well as interfaces necessary to integrate real time information in the cockpit (RTIC). In addition to providing enhanced capabilities, AMP will lower the overall cost of ownership of the C-130 fleet by generating a reduction of cockpit crew manning, and by implementing a cost effective and open architecture to increase reliability, maintainability, and sustainability (RM&S) of the avionics suite. AMP objectives will be achieved through a comprehensive cockpit modernization.

The program affects 48 Reserve aircraft and is jointly funded by PMA207 and PMA209. PMA209 is providing 48 kits and installs to cover the CNS/ATM portion of this upgrade under their OSIP 21-01, Common Avionics. PMA207 is providing 48 kits (comprising the box and wiring; 1 each per aircraft) and installs for the basic avionics portion of this upgrade. Both the CNS/ATM and avionics upgrade portions will be installed concurrently and are non-severable. The USN/USMC AMP program has a joint interest in the following USAF requirements documents: meeting the operational requirements identified in the MAF/CAF/AFSOC 902-98-I/II Operational Requirements Document (ORD) for C-130X Phase I AMP dated 26 Mar 99, AFSOC JORD 022-91-IC, Rev 1, Improved Terrain Following/Terrain Avoidance (TF/TA) Navigation System dated 16 Mar 98, AFSOC ORD 022-91-ID, SOF Enhanced Situational Awareness dated 5 Jun 98, and AFSOC ORD 007-94-1, Electronic Warfare Bus with Consolidated Display dated 13 Jul 98.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This is a non-developmental item. This will be a joint program with the Air Force. Navy/Marine Corps specific NRE is scheduled to begin in FY04. Validation/Verification kits will be procured in FY05 and installed in FY06. Recurring installs scheduled to begin in FY07.

FINANCIAL PLAN: (TOA, \$ in Millions)

INANCIAL FLAN. (TOA, \$11)		Years	FY:	2002	FY:	2003	FY:	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Kit									2	5.3												
Installation Kits N/R								1.8		4.6												
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support								0.6		1.1												
Interim Contractor Support																						
Installation Cost																						
Total Procurement								2.4		11.0												

- Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

F SYSTEMS	S AFFECT	TED:	C-130T,	, KC-1307	Г				_	MODI	FICATIO	N TITLE:	AVIONI	CS MODE	RNIZAT	ION PRO	GRAM (AMP) (OS	SIP 13-04	·)					
ION INFOR	MATION:																								
E IMPLEME	- NITATION																								
F IMPLEME	ENTATION	N:												CONTRA	CTOR DRI	VE-IN MOD)								
RATIVE LEA	DTIME:			3		Months	•			PRODU	CTION L	EADTIME	:		6		Months	-							
DATES:	ı	Y 2002:							FY 2003:					_				FY 2004:				_		FY 2005:	Dec-04
DATE:	ı	FY 2002:					.		FY 2003:	:				_				FY 2004:				-		FY 2005:	Jun-05
												(\$ i	n Millions	s)											
Cost:		Prior	Years	FY:	2002	FY 2	2003	FY	2004	FY	2005	FY:	2006	FY	2007	FY:	2008	FY:	2009	To Co	mplete	TO	TAL		
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
	ts																							4	
.,				!						!														4	
.,				-				-		!												-		-	
.,																								-	
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3 () kits																									
plete (46) ki	its																							4	
																								_	
n Schedule																									
FY 2001		FY 2	002			FY 2	2003			FY	2004			FY	2005			FY:	2006						
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
									-																
l l			l	l	L					l		l													
	FY 20	007			FY	2008			FY	2009		Т	'n			1									
1	2	3	4	1	2	3	4	1	2	3	4	1		то	TAL										
												4	6		6	1									
<u> </u>											<u> </u>														
1 2 3 2 5 6 7 8 9 1	TION INFOR DF IMPLEME RATIVE LEA T DATES: DATE: Cost: 1 & PY () kit 2 () kits 3 () kits 4 () kits 5 (2) kits 6 () kits 7 () kits 8 () kits 9 () kits unplete (46) kits pplete (46) kits privat	DF SYSTEMS AFFECT FION INFORMATION: DF IMPLEMENTATION RATIVE LEADTIME: T DATES: Cost: 1 & PY () kits 2 () kits 3 () kits 4 () kits 5 (2) kits 6 () kits 7 () kits 8 () kits 9 () kits uplete (46) kits FY 2001 & Prior 1 FY 2001 & Prior 1	DF SYSTEMS AFFECTED: FION INFORMATION: DF IMPLEMENTATION: RATIVE LEADTIME: T DATES: FY 2002: Cost: Prior Qty 1 & PY () kits 2 () kits 3 () kits 4 () kits 5 (2) kits 6 () kits 7 () kits 8 () kits 9 () kits 10 plete (46) kits 11 prior 12 PY 2007	### Continuation ### Continuat	## Continue	## Continue	## Continue	### Control of the co	### DF SYSTEMS AFFECTED: C-130T, KC-130T FION INFORMATION:	### DF SYSTEMS AFFECTED: C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### C-130T, KC-130T #### Moniths #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2004 #### C-130T, KC-130T #### Moniths #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2003 #### FY 2004 #### FY 2004 #### FY 2004 #### FY 2005 #### FY 2008 ##### FY 2008 ##### FY 2008 ##### FY 2008 ##### FY 2008 ##################################	DF SYSTEMS AFFECTED: C-130T, KC-130T MODE FIND INFORMATION: Continue	### DE SYSTEMS AFFECTED: C-130T, KC-130T	### DF SYSTEMS AFFECTED:	DF SYSTEMS AFFECTED: C-130T, KC-130T	### PRODUCTION TITLE: AVIONICS MODE ### MODIFICATION TITLE: AVIONICS MODE ### MODIFICATION TITLE: AVIONICS MODE ### MODIFICATION TITLE: AVIONICS MODE ### MODIFICATION TITLE: AVIONICS MODE ### MODIFICATION TITLE: AVIONICS MODE ### CONTRA ### C	### PRODUCTION TITLE: AVIONICS MODERNIZAT MODIFICATION TITLE: AVIONICS MODERNIZAT FOR INFORMATION:	### MODIFICATION TITLE: AVIONICS MODERNIZATION PRODUCTION INFORMATION: ### CONTRACTOR DRIVE-IN MODIFICATION TITLE: AVIONICS MODERNIZATION PRODUCTION INFORMATION: ### CONTRACTOR DRIVE-IN MODIFICATION TITLE: AVIONICS MODERNIZATION PRODUCTION INFORMATION: ### CONTRACTOR DRIVE-IN MODIFICATION TITLE: AVIONICS MODERNIZATION PRODUCTION INFORMATION: ### CONTRACTOR DRIVE-IN MODIFICATION TITLE: AVIONICS MODERNIZATION PRODUCTION INFORMATION: ### CONTRACTOR DRIVE-IN MODIFICATION TITLE: AVIONICS MODERNIZATION PRODUCTION INFORMATION INFO	SP SYSTEMS AFFECTED: C-130T, KC-130T	SP SYSTEMS AFFECTED: C-130T, KC-130T MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OS TION INFORMATION: CONTRACTOR DRIVE-IN MOD	## SYSTEMS AFFECTED: C-130T, KC-130T MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04 TON INFORMATION: ### CONTRACTOR DRIVE-IN MOD ###	PRYSTEMS AFFECTED: C-130T, KC-130T	MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04)	## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## CONTRACTOR DRIVE IN MOD ## CONTRACTOR DRIVE IN MOD ## CONTRACTOR DRIVE IN MOD ## CONTRACTOR DRIVE IN MOD ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## MODIFICATION TITLE: AVIONICS MODERNIZATION PROGRAM (AMP) (OSIP 13-04) ## 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PRODUCTION LEADTIME: S

Exhibit P-40, BUDGET ITEM JUSTIFICATION	N .								DATE:			
											February 200	3
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOME	NCLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Mod:	ifications						FEWSG (Fle	et Electronic V	Marfare Support	Group) Series N	Modifications	
Program Element for Code B Items:						Other Related	Program Elem	ents				
	0204	575N										
	Prior	ID									To	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		A										
COST (In Millions)	57.2	A	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.8	64.9

This line item funds modifications to several aircraft and equipment. The overall goal of the budgeted modifications is to accurately simulate the known and postulated electronic warfare characteristics and tactics of different threats for fleet training. OSIP 119-83 FEWSG equipment, AN/DLQ-3, AN/AST-6(V), AN/ULQ-21 and AN/ALQ-167 are installed and/or carried aboard the F/A-18, EA-6B, F-14, and are planned for carriage on the Gulfstream G-1.

(TOA. \$ in Millions)

				(IOA, \$ IN MII	lions)						_	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	<u>Total</u>
119-83	AN/DLQ-3, AN/AST-6(V), ULQ-21, ALQ-167	57.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.8	64.9
Total Note: Total	is may not add due to rounding.	57.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.8	64.9

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 43 PAGE NO. 1

Exhibit P-3a	Individual Modification

MODIFICATION TITLE: FEWSG (OSIP 119-83), AN/AST-6(V), AN/DLQ-3, AN/ULQ-21 & AN/ALQ-167

MODELS OF SYSTEMS AFFECTED: N/A TYPE MODIFICATION: RELIABILITY, MAINTAINABILITY, AND CAPABILITY UPGRADES

DESCRIPTION/JUSTIFICATION: The AN/ALQ-167 pods electronically simulate threat airborne radar jamming systems. The AN/ALQ-167 pods internal components are also installed internally in aircraft. When these components are utilized in this type of installation, they are nomenclatured AN/DLQ-3 and AN/ULQ-21. The AN/AST-6(V) pod electronically simulates several types of threat anti-ship missile seeker systems. These podded devices were first introduced into the fleet in 1980 and proved exceptionally useful in readiness exercises. This program provides for the procurement and initial support of additional quantities of these pods for use by logistic support squadrons and other operational fleet units. No aircraft modifications are required to use these pods.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The objective for the AN/ALQ-167 is 186 pods, there are currently 146. There are 25 AN/AST-6(V) production assets. The objective is to achieve a total of 50 pods. The AN/ALQ-167 avionics are being upgraded. When these upgraded avionics are internally installed in aircraft, they are nomenclatured as AN/ULQ-21 systems.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		15.9																				
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment	1,006.0	50.4	2.0	0.6	2.0	0.5	2.0	0.5	2.0	0.5												
Installation Equipment N/R		0.2		*		*		*		*												
Engineering Change Orders																						
Data		0.1		*		*		*		*												
Training Equipment		0.2																				
Support Equipment		5.2																				
ILS		0.8		*		*		*		*												
Other Support		0.2																				
Interim Contractor Support																						
Installation Cost																						1
Total Procurement		57.2		0.6		0.6		0.6		0.6												i

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-40, BUDGET	TITEM JUSTIFICATION	N							DATE:			
										Febru	ary 2003	
APPROPRIATION/BUDGE	T ACTIVITY						P-1 ITEM NOME	NCLATURE	•			
Aircraft Procurement, N	avy/APN-5 Aircraft Mod	ifications						Cargo/	Transport Airc	raft Series Mod	ifications	
Program Element for Code	B Items:						Other Related	d Program Elem	ments			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	32.0	A	7.1	3.7	13.3	9.0	19.9	32.5	36.0	39.5	4.8	197.6

This line item funds modifications to the following cargo and transport aircraft: C-9B/DC-9, C-20D/G, RC-12F/M, UC-12B, TC-12B, EC/RC-26D, C-40A, UC-35C/D, C-37. The C-9B/DC-9 Skytrain II, CT-39G (Sabreliner), C-20D/G (Gulfstream IV), C-40A (Boeing), UC-35C/D (Cessna Citation) and the C-37 (Gulfstream G-V) are all twin jet commercial transport aircraft. The C-9B/DC-9 is capable of carrying up to 32,000 pounds of both cargo and personnel for over 3,300 nautical miles at a maximum speed of 430+ knots. The C-20D/G are capable of high speed transport of 13 personnel over 4,100 nautical miles at 437 knots. The RC-12F/M, NC-12B, and UC-12B/F/M are twin turbo-prop commercial transport aircraft (King Air) capable of a variety of gerneral purpose transport and specialized missions. They can carry 8 people up to 1,300 nautical miles at 200 knots. The C-40A will provide time-critical logistics support for the fleet CINCs and will accommodate 121 passangers, or 8 pallets of cargo, or a combination configuration consistion of 3 pallets and 70 passangers. The C-40A has a range of 3,400 nautical miles with 5,000 lbs of cargo. The UC-35C/D will provide transport for high priority passanger/ cargo missions with time, place or mission sensitive requirements. The UC-35C/D will carry 6 passangers or 1,200 lbs of cargo and has a range of 1,400 nautical miles. The C-26D and EC/RC-26D are twin turbo-prop aircraft (Fairchild Metro) capable of passanger/ cargo transport andrange control missions. The C-26D can carry 19 passangers up to 1,300 nautical miles at 234 knots. The C-37 provides Executive transport fo SECNAV, CNO, CMC, and Fleet Commanders. The overall goal of the modifications budgeted in FY 2004 and out is to continue the FAA Configuration Updates, procure/ install Flight Safety Upgrades to the C-12 and C-20 aircraft and to initiate CNS/ATM upgrades to the C-40, C-37, UC-35, C-26, C-20 and C-12 aircraft. The specific modifications budgeted and programmed are as follows:

(TOA, \$ in Millions)

											To	
OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	<u>Total</u>
71-86	FAA Configuration Updates	15.6	3.7	0.4	0.6							20.4
14-98	C-12 Flight Safety Upgrade	16.4	3.4	1.0	5.5	6.1	4.9	5.0				42.4
01-03	C-20 Flight Management Systems			2.3								2.3
12-04	CNS/ATM				7.1	2.9	14.9	27.4	36.0	39.5	4.8	132.6
	Total	32.0	7.1	3.7	13.3	9.0	19.9	32.5	36.0	39.5	4.8	197.6
Reserve f	funding included in total		1.3	0.4	4.3	0.9	15.5	24.6	26.6	30.8		
Note: Tota	ils may not add due to rounding.											

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 44 PAGE NO. 1

khibit P-3a Indiv	dividual Modification
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MODIFICATION TITLE: Federal Aviation Administration (FAA) Configuration Update (OSIP 71-86)

C-9B/DC-9/C-20D/C-20G/UC-12B/UC-12F/UC-12M/RC-12F/RC-12M/TC-12B/NC-12B

MODELS OF SYSTEMS AFFECTED: CT-39G/C-26D/UC-35/C-40A TYPE MODIFICATION: Safety/Reliability/Maintainability

DESCRIPTION/JUSTIFICATION: Federal Aviation Regulations require manufacturers of commercial aircraft and associated systems/subsystems to investigate discrepant conditions, failures, and potential safety problems reported by all operators. The results of these investigations with recommended corrective action are reviewed/approved by the FAA and Navy and provided to all operators as service bulletin is a complete technical directive that provides corrective change information or detailed modification instructions. To ensure safe, reliable, FAA/Navy certified aircraft and to provide a program that will assure continued life extension at minimum cost, the Navy must maintain configuration and integrity compatible with FAA certified commercial models by incorporation of applicable service bulletins. The incorporation of certain service bulletins also serves to preclude extensive repairs/repetitive inspections. Crew equipment requirements in accordance with FAA directives and Navy requirements will be incorporated to ensure maximum safety in case of emergency. Specific modifications budgeted in this OSIP include the incorporation of C-9B/IDC-9, C-20, C-26 and C-12 FAA Bulletins and Directives.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Service Bulletins are reviewed for possible incorporation on an as required basis. Prototype verification has been previously accomplished and approved by the FAA.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior Y	'ears	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	Tota	al
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
C-12	74	0.9					20	0.2														
C-9 ENGINES	13	0.2																				
C-20	187	0.5	51	0.2	35	0.1	25	0.1														
C-9	279	5.0	2	0.1	1	0.1																
C-26	7	0.3					4	0.2														
C-9 HUSH KIT			1	1.2																		
Installation Kits N/R		2.6		*		0.1		*														
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data		0.1		0.2		*		*														
Training Equipment		0.2																				
Support Equipment																						
ILS		*																				
Other Support		0.3		0.2																		
Interim Contractor Support	1			0.2																		
Installation Cost	560				36																	
Total Procurement		15.6		3.7		0.4		0.6														

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a				0.00/00.5	10 00D 15 -		2010 40==	10.4014/50	40E/DO ::		100 400														
10DELS 0	F SYSTEM	S AFFEC		C-9B/DC-9/ CT-39G/C-2			//UC-12F/U	IC-12M/RC-	-12F/RC-12	M/TC-12B		FICATIO	N TITLE:	Federal	Aviation A	dministrati	on (FAA)	Configura	tion Upda	te (OSIP	71-86)				
NSTALLAT	ION INFOR	MATION:																							
METHOD C	F IMPLEME	ENTATIO	N:												С	ontractor I	Depot								
.DMINISTF	ATIVE LEA	DTIME:			Various		Months	_			PRODU	CTION L	.EADTIMI	E:		Various		Months							
ONTRAC ⁻	DATES:		FY 2002:		Vario	ous		_	1	Y 2003:		Var	rious		_			F	Y 2004:		Various				FY 2005:
ELIVERY	DATE:		FY 2002:		Vario	ous		-	ı	Y 2003:		Var	rious		_			F	Y 2004:		Various				FY 2005:
													(\$ ir	n Millions)										
	Cost:		Prior Y	'ears	FY ?	2002	FY	2003	FY 2	2004	FY 2	2005		2006		2007	FY 2	2008	FY 2	2009	To Con	nplete	TOT	AL.	7
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY () kit	s	560	5.5																					
FY 2002	() kits				54	1.6																			
FY 2003	() kits						36	0.1																	1
FY 2004									49	0.1															1
FY 2005																									1
FY 2006																									1
FY 2007	.,																								1
FY 2008																									1
FY 2009																									1
	olete () kits																								1
TOTAL			560	5.5	54	1.6	36	0.1	49	0.1															1
Installatio	n Schedule		EV 00	.002			EV	2002			FV	2004			EV	2005			FV	2006					
	FY 2001 & Prior	1	FY 20 2	3	4	1	2	2003 3	4	1	2	2004	4	1	2	2005	4	1	FY 2	3	4				
In	560	17	17	20		12	12	12	7		16	16	17				7			-	-				
Out	560		17	17	20	12	12	12	12		16	16	17												
																·									
		FY	2007			FY	2008			FY 2	2009		Т	о			Ì								
	1	2	3	4	1	2	3	4	1	2	3	4	1	plete	то	TAL									
In			Ŭ		一	ĦĒ	Ť				Ŭ		2311	r.010	-	99									
Out					$\vdash \vdash$	\vdash	\vdash								1	99									
∎Out					1			1							. 6	שש									

Exhibit P-3a		Individual Modification			
MODIFICATION TITLE:	Flight Safety Upgrade (OSIP 14-98)				
MODELS OF SYSTEMS AFFECTED:	UC-12B/F/M, TC-12B, RC-12F/M		TYPE MODIFICATION:	safety	

DESCRIPTION/JUSTIFICATION: The crash of a U.S. Air Force CT-43 while flying a non-directional radio beacon (NDB) approach resulted in a Department of Defense initiative to upgrade flight safety systems as soon as possible in all passenger carrying aircraft. This OSIP ensures compliance with this initiative on 81 C-12 model aircraft and identifies flight safety systems required to provide capability upgrade to directed requirements. All C-12 aircraft require installation of Enhance Ground Proximity Warning Systems and Traffic collision avoidance systems (TCAS II). The UC-12B aircraft require upgrades to provide a more reliable radar altimeter. 46 UC-12B/TC-12B aircraft require color radar to support upgrade enhancements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Systems are commercial off the shelf (COTS) and do not require development. System prototypes are required in 3 aircraft.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY:	2003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	T	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
FSU Kit	28	9.0	5	1.3	1	0.4	13	4.3	13	4.3												
XXX Kit																						
XXX Kit																						
Installation Kits N/R		4.9																				
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders								0.4		0.3												
XXX Kit ECO XXX																						
XXX Equip ECO XXX																					igsquare	
Data		0.2						0.1		0.1												
Training Equipment		0.7		0.2		*		0.2		0.2												
Support Equipment																					igsquare	
ILS		0.2		0.2		0.1		0.1		0.1												
Other Support		0.8		0.1		0.1		0.4		0.2												
Interim Contractor Support													<u> </u>									
Installation Cost	10		18		5	0.4	1	0.1	13	0.9												
Total Procurement		16.4		3.4		1.0		5.5		6.1												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODELS OF	F SYSTEM	//S AFFE	CTED:	UC-12B/I	F/M. TC-1	2B. RC-	12F/M				MODI	FICATIO	N TITLE:	Flight Sa	fety Upgra	ide (OSIP	14-98)									
	J				,	_,				•		2			7 - 1910		,									
INSTALLATI	ON INFO	RMATION	۷:																							
METHOD O	F IMPLEN	MENTATIO	ON:												Contr	actor Insta	alled Kits									
ADMINISTR	ATIVE LE	ADTIME:		-		1	Months	<u>.</u>			PRODU	CTION L	EADTIM	E:		1	2	Months	-							
CONTRACT	DATES:		FY 2002:			No	v-01	_	ı	FY 2003:			Nov-02		_				FY 2004:				_		FY 2005:	 Nov-04
DELIVERY [DATE:		FY 2002:			De	c-02	=	ı	FY 2003:			Dec	c-03	_				FY 2004:				_		FY 2005:	 Dec-05
													(\$	in Million	s)											
	Cost:		Prio	r Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY	2009	To Co	mplete	TO	OTAL		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
FY 2001	& PY () k	its	10	0.6	18	1.6																				
FY 2002	. ,						5	0.4																		
FY 2003	. ,								1	0.1																
FY 2004											13	0.9														
FY 2005	() kits												13	0.9											_	
-			-																						4	
-			-																						-	
-			<u> </u>																						-	
To Comr	olete (22) k	vite	1																						-	
TOTAL	nete (22) r	VII.S	10	0.6	18	1.6	5	0.4	1	0.1	13	0.9	13	0.9											-	
Installation	n Schedule	е																							_	
	FY 2001		FY	2002				2003			FY:	2004				2005			FY:	2006						
_	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
<u>In</u>	10	4	4	5	5	1	2	1	1	1				3	3	3	4									
Out	10	4	4	5	5	1	2	1	1	1				3	3	3	4					j				
Ī		EV	2007		1	EV	2008		1	EV	2009		_	-o	1		ı									
	1	2	3	4	1	2	3	4	1	2	3	4		o plete	TO	ΤΑΙ										
In	'	1 -	 		 		-	-	<u> </u>				00111	21		8										
Out			†											21		8										
201		i .	Į.	1			i.									-										

Exhibit P-3a		Individual Modification	
MODIFICATION TITLE:	Flight Management Systems (FMS) (OSIP 01-03)		
MODELS OF SYSTEMS AFFECTED.	C 20 D		TVDE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: This modification provides the C-20D aircraft, with an upgrade to the flight control display system and an incorporation of a High Frequency (HF) Data Link system. The flight control display system will integrate all current and future airspace navigation requirements (CNS/ATM) into a single integrated system with expandable architecture. The HF Data Link is a CNS/ATM requirement component system that integrates into the upgraded flight control display system. The system configured consists of a necessary redundancy of kits, such that 2 kits per aircraft is required. There are currently 2 C-20D aircraft in inventory, both of which will receive this modification.

DEVELOPMENT MILESTONES: FAA approved Supplement Type Certifications (STC) have been approved and commercial off the shelf (COTS) equipment will be purchased with subsequent installation to be performed by CLS contractor at depot level on 2 C-20D aircraft.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
C-20D/G DFH KITS					2	0.2																
C-20D FMS UPGRADE KIT					1	1.2																
Installation Kits N/R						0.3																
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data						0.1																
Training Equipment						0.1																
Support Equipment																						
ILS						0.2																
Other Support						0.1															, and the second	
Interim Contractor Support																						
Installation Cost					3	0.1	•							•		•				•		
Total Procurement						2.3																

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a	a																									
MODELS O	F SYSTEM	IS AFFEC	CTED:	C-20 D							MODI	FICATIO	N TITLE:	Flight M	lanageme	ent Syste	ms (FMS) (OSIP (01-03)							
INSTALLAT	ION INFO	RMATION	l:																							
METHOD O	F IMPLEM	ENTATIC	N:										Kits to	be inst	alled by	mainten	ance cor	ntractor a	at depot							
ADMINISTR	ATIVE LE	ADTIME:			2		Months	_			PRODU	CTION L	EADTIM	E:		1		Months	<u>-</u>							
CONTRACT	DATES:		FY 2002:					_	1	FY 2003:		De	c-02		_			1	FY 2004:				_		FY 2005:	
DELIVERY I	DATE:		FY 2002:					_	ı	FY 2003:		Jar	n-03		_			1	FY 2004:				_		FY 2005:	
														n Million	,										_	
	Cost:			Years		2002		2003		2004		2005	FY:			2007	FY:		FY 2			mplete		TAL		
<u> </u>	0.51(())		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4	
	& PY () k	its																							4	
FY 2002							3	0.4															-		4	
FY 2003 FY 2004						1	3	0.1							1										-	
FY 2004			ł		ł			-				-	-		1	-									-	
FY 2006			1		1																				1	
FY 2007							1				1				1										1	
FY 2008																									1	
FY 2009			Ì		Ì																				1	
To Com	plete () kit	s																							1	
TOTAL							3	0.1]	
	n Schedule	;	FY 2	2002		1	EV	2003			EV	2004			EV	2005			FY 2	2006		1				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In						2	1																			
Out							2	1																		
																						-				
		FY 2					2008				2009			Ō.												
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete		TAL										
In .																3										
Out									I							3	J									

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	CNS-ATM (OSIP 12-04)			
MODELS OF SYSTEMS AFFECTED:	C-12 C-20 C-26 C-35 C-37 C-40		TYPE MODIFICATION:	Safety

DESCRIPTION/JUSTIFICATION: Communication-Navigation-Surveillance-Air-Traffic-Management (CNS-ATM) upgrades are required to satisfy International Civil Aviation Organization (ICAO) standards and Federal Aviation Administration (FAA) First and Second Phase mandates. FAA Phase 1 (1998 - 2002) delivers a subset of CNS capabilities. Implemented were: Ground Proximity Warning System, RNP - 10 NM Accuracy, Protected LLS (P-ILS) – FM Immunity, 8.33KHz spaced VHF channels and Over-water Reduced Vertical Separation Minima. All C-12 non-trainer aircraft modified with the 8.33 KHz radios under OSIP 71-86, the remaining CONUS aircraft (13) are to receive this modification under this OSIP. This OSIP installs FAA Phase 2 (2003 - 2009), delpoying the next generation of CNS equipment. Data link will provide Controller Pilot Data Link Communications (CPDLC) and Tower Data Link Services (TDLS) for the exchange of data communication messages between the controller personnel and pilots with an automated data link communications capability that reduces workload and reduces voice frequency congestion through digital radios. These digital radios will comply with international standards defined by ICAO for CPDLC in an Aeronautical Telecommunications Network (ATN) environment. All 96 aircraft in 6 T/M/S will receive this modification. Radio Navigation Performance (RNP) accuracy imprisonate and precision appraciation and precisi

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All kits are Commercial Off-the-Shelf equipment. Non-recurring engineering is required for data link, RNP and LAAS and the Avionics Upgrade in the C-26; thus NRE is broken out separately for each kit type.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY	2004	F`	Y 2005	FY	2006	FY	2007	FY	2008	FY	′2009	To Co	omplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Data Link Kit																						
RNP Upgrade Kit									3	0.1												
LAAS Kit																						
P-ILS Kit							56	0.6														
Avionics Upgrade Kit							1	1.4	1	0.4												
8.33KHz Radio Kit							13	0.4														
Installation Kits N/R							1	3.3		1.0												
Installation Equipment																						
XXX Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
XXX Kit ECO XXX																						
XXX Equip ECO XXX																						
Data										0.5												
Training Equipment																						ــــــ
Support Equipment																						ــــــ
ILS								0.2		0.2												ــــــ
Other Support				ļ				0.8		0.3												ــــــ
Interim Contractor Support																						<u> </u>
Installation Cost							70	0.5	4	0.5												<u> </u>
Total Procurement								7.1		2.9												1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODELS O	SYSTEMS	S AFFEC	TED:	C-12						<u>.</u>	М	ODIFICATION	ON TITLE	CNS-ATM	(OSIP 12-0	04)										
NSTALLAT	ON INFOR	MATION	:																							
METHOD O	IMPLEME	NTATIO	N:	Depot 0	Contracto	or																				
ADMINISTR	ATIVE LEA	DTIME:			3		Months	<u>s</u>			PRODU	CTION LEA	DTIME:			1		Months	<u>s</u>							
CONTRACT	DATES:		FY 2002	2:				=		FY 2003:					_				FY 2004		Jan-04		_		FY 2005:	Jan-05
DELIVERY	DATE:		FY 2002	2:				_		FY 2003:					_				FY 2004		Feb-04		_		FY 2005:	Feb-05
														(\$ in Millio	ons)										_	
	Cost:		_	r Years		2002		2003		2004		Y 2005		2006		Y 2007		Y 2008		2009		Complete		TAL		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4	
	& PY () kit	s																			1				_	
FY 2002	• •																									
FY 2003				-																				<u> </u>	_	
FY 2004	` '		-	-		1			69	0.1			1				-				4	-	-		_	
FY 2005	() kits		-	+		1	<u> </u>	ļ			3	0.	1				-					1			-	
-			+	+	1	1			1				1		1		1		1		+	1	-	-	-	
															1				1					ł	-	
			+	+													-				+			 	_	
To Com	olete (117) l	rite	1	+	1				1				1		1		1		1		+	1			-	
TOTAL	nete (117) i	KILO							69	0.1	3	0.	1											<u> </u>	-	
Installatio	n Schedule																					_			_	
	FY 2001		_	2002				2003	1			2004	1			2005	1			2006	1	4				
ī.	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4				
In O			-	1	1	1			-		23	23	23	-	3		-				-	-				
Out					1	<u> </u>	l	<u> </u>	1		23	23	23	<u> </u>	1	3						J				
		E)//	2007		1	E\/	2000			E\(\)	2000		_	Т-	1		7									
	1	FY 2	3	4	1	FY 2	2008	4	1	2 FY	2009	4	-1	To mplete	I .	OTAL										
In	1		3	-	<u>'</u>		3	7	<u> </u>		3	4		117	+	189	1									
Out			1	+	1	1	1	1	1		1		1	117	+	189	†									
Jui			1		1	1	I.	I.	I	l	1	l	I	117	1	103	J									

Exhibit P-3a																									
MODELS O	SYSTEMS	AFFECT	ED:	C-20							M [,]	ODIFICATIO	ON TITLE:	CNS/ATM	OSIP 12-0	14)									
				<u> </u>								551071.10		0110/711111	00.1. 12.0	.,									
NSTALLAT	ON INFORI	MATION:																							
METHOD O	F IMPLEME	NTATION	l:	Contrac	tor Drive	In Modi	ification 1	Team																	
ADMINISTR	ATIVE LEA	OTIME:			3		Months	<u> </u>			PRODU	CTION LEAD	DTIME:			1		Months	<u>.</u>						
CONTRACT	DATES:		FY 2002:	:				_		FY 2003:					_				FY 2004:		Jan-04		_		FY 2005:
DELIVERY I	DATE:		FY 2002:	:				_		FY 2003:					_				FY 2004:		Feb-04		_		FY 2005:
														(\$ in Millio	ons)										=
	Cost:			Years		2002		2003		2004		Y 2005		2006		2007		2008		2009		omplete		TAL	4
EV 2001	& PY () kits		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4
FY 2002		•					\vdash	+																	1
FY 2003	• •						1																		1
FY 2004									1	0.4															
FY 2005	() kits]
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							↓	<u> </u>		 	<u> </u>	<u> </u>	-												4
				1			┼──	 	 -			 	-								1				4
To Com	olete (42) ki						+	 	┢──┤			 													4
TOTAL	nete (42) Ki	5		1		1	+	+	1	0.4	\vdash		\vdash						1		1		1		1
Installatio	n Schedule FY 2001		EV	2002			EV	2003			EV	2004			EV	2005			FY 2	2006		1			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1			
In											1]			
Out												1													
																	1								
	4	FY 20					2008		<u> </u>		2009		=	To	_	OT 4.1									
1	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete	'	OTAL	ł								
In Out				1		-	+	+	$\vdash \vdash$		 	 	├──	42 42		43	ł								
Out											ь			42		43	I								

xhibit P-3a																										
IODELS OI	F SYSTEMS	S AFFEC	TED:	C-26						<u>.</u>	М	ODIFICATIO	N TITLE:	C-26 CNS/	ATM UPGI	RADE (OSIP	12-04)									
ISTALLATI	ION INFOR	MATION:																								
IETHOD O	F IMPLEME	NTATION	N:	Depot C	Contracto	r																				
DMINISTR	ATIVE LEA	DTIME:			3		Months	_			PRODU	CTION LEAI	OTIME:			1		Months	_							
ONTRACT	DATES:		FY 2002	·				-		FY 2003					_				FY 2004:				_		FY 2005:	Jan-05
ELIVERY [DATE:		FY 2002	:				_		FY 2003					=,				FY 2004:				=		FY 2005:	Feb-05
														(\$ in Millio	ons)										_	
<u> </u>	Cost:			Years		2002		2003		2004		/ 2005		2006		/ 2007		2008		2009		omplete		TAL	4	
<u> </u>			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4	
	& PY () kit	s																							_	
FY 2002					ļ																					
FY 2003																								<u> </u>	_	
FY 2004			1		1		1																-	.	_	
FY 2005	() kits		-	-	<u> </u>						1	0.4												<u> </u>	_	
			1		1				1		1				1						1				=	
					1																1			1	-	
																									-	
To Com	olete (23) ki	te	1		1																1				-	
TOTAL	Diete (25) Ki	13									1	0.4													-	
	n Schedule FY 2001		EV	2002			EV	2003			EV	2004		ı	EV	2005			FY 2	2006		1				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
In	2	-	1 -	Ť	<u> </u>			Ŭ				Ŭ		<u> </u>		1			_	Ť		1				
Out			1		1											1			1			1				
		FY 2	007			FY	2008			FY	2009			То												
	1	2	3	4	1	2	3	4	1	2	3	4	Co	mplete	T	OTAL										
In														23		24										
Out														23		24										
																	_									

Exhibit P-3a																										
MODELS OF	SYSTEMS	S AFFECT	ΓED:	UC-35							M	ODIFICATIO	N TITLE:	UC-35 CNS	S/ATM UP	GRADE (OSI	2 12-04)									
NSTALLATIO	ON INFOR	MATION:																								
METHOD OF	IMPLEME	NTATION	۷:	Depot C	ontracto	or and Co	ntractor	Field Mo	od team																	
ADMINISTRA	ATIVE LEA	DTIME:			3		Months	<u> </u>			PRODU	CTION LEA	DTIME:			1		Months	-							
CONTRACT	DATES:		FY 2002:	:				=		FY 2003:					_				FY 2004:				=		FY 2005:	
DELIVERY D	ATE:		FY 2002:	<u></u>				=		FY 2003:					_				FY 2004:				_		FY 2005:	
														(\$ in Millio	ons)										_	
	Cost:		_	Years		2002		2003		2004		2005		2006		2007		2008		2009		omplete		TAL		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	_	
FY 2001		S																								
FY 2002																									_	
FY 2003	• •																									
FY 2004			<u> </u>	<u> </u>					ļ		ļ		ļ												_	
FY 2005	() kits			ļ					ļ		ļ		ļ								ļ				4	
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				<u> </u>																					4	
To Comp	lete (18) ki	ts	!	!		ļ		ļ	}		}		}		<u> </u>						 		1		4	
TOTAL			<u> </u>	<u> </u>		l		l	<u> </u>																_	
Installation			FY	2002		_		2002			EV.	2004			EV.	2005			EV 6	000		ī				
	FY 2001 & Prior	1	FY 2	3	4	1	FY 2	2003	4	1	2 FY :	2004	4	1	FY 2	2005	4	1	FY 2	3	4					
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Out				1							1				 											
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j		FY 20	007			FY '	2008			FY	2009			То			1									
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	Т т	OTAL										
In				<u> </u>			_			_			50.	18	<u> </u>	18	1									
Out														18		18	t									
Ju.			1		<u> </u>		<u> </u>									-	ı									

Exhibit P-3a					-																				
MODELS C	F SYSTEMS	S AFFEC	TED:	C-37						=	М	ODIFICATIO	N TITLE:	CNS/ATM	(OSIP 12-0)4)									
INSTALLAT	ION INFOR	MATION	:																						
METHOD C	F IMPLEME	NTATIO	N:	Contra	ctor Drive	e In Mod	ification	Team																	
ADMINISTF	ATIVE LEA	DTIME:			3		Months	<u>s</u>			PRODU	CTION LEA	DTIME:			1		Months	<u>s</u>						
CONTRAC	DATES:		FY 2002	2:				_		FY 2003	:				_				FY 2004	i			_		FY 2005:
DELIVERY	DATE:		FY 2002	2:				_		FY 2003:	:				_				FY 2004				_		FY 2005:
														(\$ in Millio	ons)										_
	Cost:	-	_	r Years		2002		2003		2004		Y 2005		2006		2007		Y 2008		2009		omplete		TAL	_
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4
	& PY () kit	S			\bot		ــــــ																		
FY 2002						<u> </u>																			
FY 2003						—																			
FY 2004						├	₩																-		_
FY 2005	() kits		-	-		 	—		1		-				-		-						-		_
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			-			+	+				1													1	4
				-		+	+	-			-		<u> </u>		-		-						+		4
T- C	plete (24) ki				+	┿	+																-		4
TOTAL	piete (24) ki	ts			+	+	+-												1						-
	n Schedule		<u>, </u>	1		<u></u>		ı	•			•	•					•	•	•	<u>'</u>	•	•		_
	FY 2001		FY	2002		T	FY	2003			FY	2004			FY	2005			FY:	2006		1			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In																						1			
Out					\bot	<u></u>	\perp															j			
																	_								
	ļ		2007	1	\bot		2008		ļ		2009			То											
	1	2	3	4	1	2	3	4	1	2	3	4	Co	mplete	Т	OTAL	4								
In			-		\bot	+	+							24	1	24	4								
Out			1	1	1	1		1	I	1		1	1	24	1	24	1								

xhibit P-3a																									
MODELS O	F SYSTEM	S AFFEC	CTED:	C-40A						_	М	ODIFICATIO	ON TITLE:	CNS/ATM	(OSIP 12-0	04)									
NSTALLAT	ION INFOR	MATION	l:																						
METHOD O	F IMPLEME	ENTATIO	N:	Contrac	ctor Field	l Modific	ation Tea	am																	
DMINISTR	ATIVE LEA	DTIME:			3		Months	<u>s</u>			PRODU	CTION LEA	DTIME:			1		Months	<u>s</u>						
CONTRACT	DATES:		FY 2002	2:				_		FY 2003	:				_				FY 2004:				_		FY 2005:
DELIVERY	DATE:		FY 2002	2:				_		FY 2003:	:				_				FY 2004:				_		FY 2005:
														(\$ in Millio	ons)										
	Cost:		_	r Years		2002		2003		Y 2004		Y 2005		2006		Y 2007		Y 2008		2009		omplete		TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY () kit	s																							
FY 2002	? () kits																								
FY 2003	3 () kits																								
FY 2004	() kits																								
FY 2005	i () kits																								
	plete (36) k	its											<u> </u>									ļ			
TOTAL																									
Installatio	n Schedule		FY	2002		1	FY	2003		ı	FY	2004		Γ	FY	2005		I	FY.	2006		1			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1			
In	5		1																i -	_		1			
Out																						1			
		1	•	•	•		•	•	•		•	•			•	•	•					-			
		FY:	2007			FY	2008			FY	2009			То			1								
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	Т	OTAL									
In														36		36	1								
Out			İ			İ		İ						36		36	1								
		1								•							_								

Exhibit P-40, BUDGET ITEM JUSTIFICA	ATION								DATE:			
										Febru	ary 2003	
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOME	NCLATURE				
Aircraft Procurement, Navy/APN-5 Aircra	ft Modifications								E-6 Series	s Modifications	ı	
Program Element for Code B Items:							Other Related	Program Elem	ents			
	Prior	ID									To	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		A										0
COST (In Millions)	708.1	A	75.0	55.8	48.5	22.1	15.8	47.2	81.2	73.7	175.6	1,303.1

This line item funds modifications to E-6 "Take Charge and Move Out", TACAMO aircraft. The E-6A TACAMO is a manned airborne communications relay platform designed to provide survivable, reliable, endurable airborne command and control communications link between the President, Secretary of Defense and U.S. strategic and non-strategic forces. The Navy and Air Force have been directed to take actions necessary to incorporate Airborne Command Post (ABnOP) (OISP 32-03) functions into the E-6A which were completed in FY03. For FY04 and FY05, OSIP 32-03 will complete the additional requirements of the ADNOP Program. The Multifunction Display System (MDS), OSIP 27-99, was approved as the solution to maintaining worldwide deployability due to changing Global Air Traffic Management/Global Air Navigation System standards. In FY 04 the Modified Miniature Receiver Terminal (MMRT), OSIP 10-01, will be installed to enhance command and control of the strategic forces. OSIP 07-02 corrects safety and Follow On Test & Evaluation (FOT&E) (Sep 98) deficiencies by replacing the Milistar Tactical Terminal Access Control (TAC) battery, upgrading the Aircraft Frequency Auto Parallel Unit (FRAPU) to allow proper power transfer from/to ground/aircraft power, updating the design of and fabricating new rewind machines and purchasing "Off-the shelf" power carts to provide adequate aircraft power for full mission checkout. OSIP 08-02 started in FY02 and includes smoke and fire detection systems, replacement of fuel tank Kapton wiring and replacement of an uncertified Cartridge Activated Device (CAD) (explosive) for severing the Long Trailing Wire Antenna in emergencies. Technology Insertion (OSIP 03-04) addresses supportability, new technologies, systems updates and interoperability issues in the areas of: Mission Computer Set (MCS) hardware obsolescence, Video C41 for live Battlestaff conferencing, Autodin Modem replacement and Mode 1 terminal installation for Autodin dial-up capability, Morse code to ASCII text conversion, and the install

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
32-93	E-6B Mod	649.3	37.7	10.0	2.8	0.9						700.6
27-99	Multifunction Display System	55.8	31.1	33.3	23.0	7.8						151.0
10-01	E-6B Modified Mini Rcv Terminal	3.0	4.9	4.0	4.8	1.4						18.1
07-02	E-6 Mission Support		0.3	4.9	5.9	3.4	5.1	5.8	5.9	2.1		33.4
08-02	Safety Deficiencies		1.0	3.6	6.5	1.6	1.1	1.1	1.1	1.1		17.1
03-04	Tech Insertion				5.6	4.5	6.4	6.0	2.7	2.7		27.8
01-05	SLEP					2.4	3.2	6.6	13.0	12.0	59.2	96.4
XX-07	Mission Deficiencies (Block I)							27.8	58.5	55.8	116.4	258.5
Total	E-6A Series	708.1	75.0	55.8	48.5	22.1	15.8	47.2	81.2	73.7	175.6	1,303.1

Note: Totals may not add due to rounding.

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	E-6B Modifications (OSIP 32-93)			
MODELS OF SYSTEMS AFFECTED:	E-64/E-6B		TYPE MODIFICATION:	Canability

DESCRIPTION/JUSTIFICATION: Mission Needs Statement: E-6A TACAMO/Airborne Command Post (ABNCP) Consolidation Program, MO-40-88-93, dated 22 Sep 93, substantiates the transfer of avionics equipment from the Air Force EC-135 ABNCP platform to the Navy E-6A TACAMO aircraft. This program consolidates Joint Chiefs of Staff (JCS) Strategic Command and Control tasking into one survivable airborne strategic platform and achieves significant operations and maintenance savings of at least \$50M annually. The addition of the ABNCP mission to the TACAMO aircraft results in one platform having the ability to relay emergency action messages from the President and Secretary of Defense to U. S. Strategic Forces and for CINCSTRAT to directly execute command and control of those forces. Operational Requirements Document (ORD) 389-88-98, Revised 20 Mar 97, supports modifications for the High Power Transmit Set, original ABNCP avionics systems and MILSTAR capabilities. These are encompassed in ECP CTAS-100R3. ORD 389-88-98, revised 14 Aug 98, incorporates newly identified requirements, including approved ECP RCS-100R1 for Voice Satellite (VOSAT) Communications and future Engineering Change Proposals (ECPs) for Cryptographic (CRYPTO) equipment upgrades, Ultra High Frequency (UHF) Demand Assigned Multiple Access (DAMA) installation, Automated Data Processing Capability (ADP) and Weight Savings. VOSAT capability is a voice recognition system that is required by CINCSTRAT for uncompromised communications. CRYPTO upgrade is required by CINCSTRAT to ensure ABNCP receipt and distribution of encrypted messages in accordance with relay timing parameters. UHF DAMA is required for communications across the spectrum of Command and Control responsibilities. ADP capability is required by CINCSTRAT for efficient operations by the embarked Battle Staff and for the capability to receive and generate encrypted and classified correspondence. The weight removal is required to offset the effects of other mods on zero gross fuel weight parameters. The AD

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone III decision on ABNCP modifications granted January 1995. Milestone III decision for Avionics Upgrade and HPTS granted December 1995. FOT&E completed June 1998. Fourteen E-6B aircraft delivered to the fleet to date. Initial Operating Capability (IOC) date of 1 October 1998 was met. September message from CINCUSSTRATCOM delineated additional requirements and associated program cost growth resulted in E-6 program restructure with ABNCP Full Operating Capability shifting from January 2001 to February 2003. IOC for VOSAT modification was 1 October 1998 and IOC for CRYPTO was 1 July 2000. A contract was awarded for the ADWS program September 00 and Full Operational Capability (FOC) is planned for September 03. E-6B Modication ADWS Program was extended two years to accommodate its restructure.

FINANCIAL PLAN: (TOA, \$ in Millions)

110/11/01/12 E/11/1. (10/1, \$\psi 11)	_	Years	FY	2002	FY	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY	2007	FY:	2008	FY 2	2009	To Co	mplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E	1	107.3																				
PROCUREMENT																						
Installation Kits																						
HPTS Kit	16	19.7																				
ABNCP Kit	14	52.1	1	3.9																		
VOSAT Kit	15	0.3	1	*																		
CRYPTO Kit	16	1.1	1	*																		
SIL Kit	1	0.4																				
LAB Kit	1	0.1																				
ADWS Kit	10	6.6	6	4.0																		
Installation Kits N/R		49.5																				
Installation Equipment																						
HPTS/CFA Equip	18	139.3																				
ABNCP Equip	14	29.6	1	1.5																		
VOSAT Equip	15	2.0	1	0.2																		
CRYPTO Equip	16	0.4	1	*																		i
Lab Equipment	1	*																				i
ADWS Equipment	10	6.5	6	4.0																		
SIL Equipment	1	0.4																				
MILSTAR Equip	7	38.1																				i
HPTS TIMING DIV Equip	19	5.8																				
SDRS Equip	1	0.6																				
Installation Equipment N/R		30.5																				
Engineering Change Orders																						
Data		23.2																				
Training Equipment	12	41.5		0.3																		
Support Equipment		6.2																				
ILS		19.0		0.8																		l
Other Support	1	106.2		5.0		2.2		0.6		0.1		ļ	1									
Interim Contractor Support		1.1											<u> </u>									
Installation Cost	67	69.2	17		4	7.0				0.8												
Total Procurement		649.3		37.7		10.0		2.8		0.9												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. 1 ABCNP Prototype Kit procured in R&D.
- 4. Installation quantities include HPTS and ABNCP kits separately to account for kit purchases although they were combined for installation purposes in 1996.

ODELS OF	SYSTEM	S AFFECT	TED:	E-6A/E-6	В					=	MOD	IFICATIO	N TITLE:	E-6B Mod	difications (OSIP (32-9	93)							
ISTALLATI	ON INFOR	RMATION:																						
ETHOD OF	IMPLEM	ENTATION	N:											Contracto	or Drive-in/	Field Modi	fication							
DMINISTRA	ATIVE LEA	ADTIME:			1		Months	<u> </u>			PRODUC	CTION LE	ADTIME:			Varies			_					
ONTRACT	DATES:	FY 2002:	:	Va	ries		_	FY 2003:					-		FY 2004:					_	FY 2005:			
ELIVERY [ATE:	FY 2002:		Va	ries		_	FY 2003:					_		FY 2004					_	FY 2005	i		
													(\$ in M	illions)										
	Cost:			Years		2002		2003		2004	FY 2		FY 2			2007	_	2008		2009		omplete	TOTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 FY 2002	& PY () ki	its	53	63.9	15	17.5	5 1	3.8	2	2 0.7 4 1.5		0.8									<u> </u>			
FY 2002 FY 2003							3	4.0		1.5	2	0.8												
FY 2004			1			<u> </u>											1				1	1		
FY 2005																		<u> </u>						
FY 2006																								
FY 2007																								
FY 2008							1										1				1			
	() Kits						1														1		1	
FY 2009	loto () kita																							
To Comp TOTAL Note: Tota		and dollar	53 rs do not i		15 trainers,			7.8	6	5 2.2	2	0.8											<u> </u>	
To Comp TOTAL Note: Tota HPTS Inst	I qantities allation Sc	and dollar	rs do not i	nclude 12	trainers,		d 2 SILs	2003			FY 2	2004				2005				2006]		
To Comp TOTAL Note: Tota HPTS Inst	I qantities allation So FY 2001 & Prior	and dollar	FY 2	nclude 12	trainers,		d 2 SILs	2003	4	2.2			4	1	FY 2	2005	4	1	FY 2	2006	4]	<u> </u>	
To Comp TOTAL lote: Tota IPTS Inst	I qantities allation Sc FY 2001 & Prior 13	and dollar	FY 2	nclude 12	trainers,	2 Labs and	d 2 SILs	2003 3		1	FY 2	2004	4	1			4	1			4]	<u> </u>	
Fo Comp FOTAL bite: Total	I qantities allation So FY 2001 & Prior	and dollar	FY 2	nclude 12	trainers,	2 Labs and	d 2 SILs	2003			FY 2	2004	4	1			4	1			4			
To Comp TOTAL Note: Total HPTS Inst	I qantities allation Sc FY 2001 & Prior 13	and dollar	FY 2	nclude 12	trainers,	2 Labs and	FY 2	2003 3		1	FY 2	2004					4	1			4			
To Comp TOTAL Note: Total HPTS Inst	I qantities allation Sc FY 2001 & Prior 13	and dollar	FY 2	nclude 12	trainers,	2 Labs and	d 2 SILs	2003 3		1	FY 2	2004	T	0	2		4	1			4			
To Comp TOTAL lote: Tota IPTS Inst	I qantities allation Sc FY 2001 8 Prior 13 12	and dollar	FY 2 2 1 1 1 2007	002 3	4 1	2 Labs and	FY 2	2003	4	1 1 FY:	FY 2 2	3		0		3	4	1			4			
To Comp TOTAL lote: Total HPTS Inst	I qantities allation Sc FY 2001 8 Prior 13 12	and dollar	FY 2 2 1 1 1 2007	002 3	4 1	2 Labs and	FY 2	2003	4	1 1 FY:	FY 2 2	3	T	0	TO	3 TAL	4	1			4			
To Comp TOTAL Note: Tota HPTS Inst	I qantities allation Sc FY 2001 8 Prior 13 12 1	and dollar	FY 2 2 1 1 1 1 2007 3 3	002 3	4 1	2 Labs and	FY 2 2008 3	2003	4	1 1 FY:	FY 2 2 2009 3	3 4	T	0	TO	3 DTAL 16	4	1	2	3	4			
To Comp TOTAL Note: Total HPTS Inst	I qantities allation Sc FY 2001 8 Prior 13 12 1 stallation S FY 2001	and dollar thedule	FY 2 2 1 1 1 2007 3 FY 2	002 3 4	4 1 1	2 Labs and	FY 2 2008 3	2003 3 1 1 1 1 4 4 2003	1	1 1 1 FY 2 2	FY 2 2 2009 3	4	Com	o olete	TO FY	3 DTAL 16 16			2 FY	2006]		
To Comp TOTAL Note: Total HPTS Inst	I qantities allation Sc FY 2001 8 Prior 13 12 1 stallation \$ FY 2001 8 Prior	and dollar	FY 2 2 1 1 1 2007 3 FY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	002 3	4 1 1 1 4 4	2 Labs and	FY 2 2008 3	2003 3 1 1 1 1 4 4 2003 3 3 3	4	1 1 FY:	FY 2 2 2009 3	3 4	T	0	TO	3 DTAL 16	4	1	2	3	4			
To Comp TOTAL Note: Total HPTS Inst In Out ABNCP In	I qantities allation Sc FY 2001 & Prior 13 12 1 stallation S FY 2001 & Prior 13 1	and dollar thedule	FY 2 2 1 1 1 PY 2 2 2 1 1 1 1 PY 2 2 2 1 1 1 1 PY 2 2 2 1 1 1 1 PY 2 2 2 1 1 1 PY 2 2 2 1 1 1 PY 2 2 2 1 1 PY 2 2 2 1 1 PY 2 2 2 1 1 PY 2 2 2 1 1 PY 2 2 2 2 1 1 PY 2 2 2 2 1 1 PY 2 2 2 2 1 1 PY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	002 3 4	4 1 1	2 Labs and	FY 2 2008 3	2003 3 1 1 1 2003 3 3 1 1	1	1 1 FY 2 2	FY 2 2 2009 3	4	Com	o olete	TO FY	3 DTAL 16 16			2 FY	2006				
To Comp TOTAL Note: Total HPTS Inst	I qantities allation Sc FY 2001 8 Prior 13 12 1 stallation \$ FY 2001 8 Prior	and dollar thedule	FY 2 2 1 1 1 2007 3 FY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	002 3 4	4 1 1 1 4 4	2 Labs and	FY 2 2008 3	2003 3 1 1 1 1 4 4 2003 3 3 3	1	1 1 1 FY 2 2	FY 2 2 2009 3	4	Com	o olete	TO FY	3 DTAL 16 16			2 FY	2006				
To Comp TOTAL Note: Total HPTS Inst In Out ABNCP In	I qantities allation Sc FY 2001 & Prior 13 12 1 stallation S FY 2001 & Prior 13 1	and dollar thedule	FY 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	002 3 4	4 1 1	2 Labs and	FY 2 2008 3	2003 3 1 1 1 2003 3 3 1 1	1	1 1 1 2 2 2 1 1 1 1 1 1 1	FY 2 2 2009 3	4	Com	o olete	TO FY	3 DTAL 16 16			2 FY	2006				
To Comp TOTAL Note: Total HPTS Inst In Out ABNCP In	I qantities allation Sc FY 2001 & Prior 13 12 1 stallation S FY 2001 & Prior 13 1	and dollar thedule	FY 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	002 3 4	4 1 1	2 Labs and	FY 2 2008 3 FY 2	2003 3 1 1 1 2003 3 3 1 1	1	1 1 1 2 2 2 1 1 1 1 1 1 1	FY 2 2 2 FY 2 2	4	To Com	o plete 1	TO FY 2	3 DTAL 16 16			2 FY	2006				
To Comp TOTAL Note: Total HPTS Inst In Out ABNCP In	I qantities allation Sc FY 2001 8 Prior 13 12 1 stallation \$ FY 2001 8 Prior 13 12 1	and dollar shedule 1 FY 2 Schedule	FY 2 2 1 1 1 1 2007	002 3 4 002 3	4 1 1	2 Labs and 1 FY: 2	FY 2 2008 3	2003 3 1 1 1 2003 3 1 1 1 1	1 4	1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4	T. Com	o plete 1	TO FY 2	3 DTAL 16 16			2 FY	2006				

VOSAT Schedule

	FY 2001		FY 2	002			FY 2	2003			FY 2	004			FY:	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	13		1		1			1													
Out	12		1		1			1		1											

		FY 2	007			FY 2	8008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

CRYPTO Installation Schedule

	FY 2001		FY 2	002			FY 2	2003			FY 2	004			FY:	2005			FY 2	2006	
	& Prior 1 2 3				4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	13		1		1			1													
Out	13		1		1			1													

		FY 2	007			FY 2	800			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

ADWS Installation Schedule

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY:	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1	2	3	1	1					1	2	1	2	2							
Out		2	3	1	1	1						2	2	2	2						

		FY 2	007			FY 2	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

Exhibit P-3a	Individual Modification

MODIFICATION TITLE: Multifunction Display System (OSIP 27-99)

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) 389-88-98, revised 14 Aug 98, requires installation of the Multifunction Display System (MDS). Current and future changes to Communications, Navigation and Surveillance/ Air Traffic Management (CNS/ATM) required by Federal Aviation Administration/ International Civil Aviation Origination (FAA/ICAO) are satisfied by the installation of the MDS. Modifications to E-6 cockpit display system are required due to changes in the FAA/ICAO Required Vertical Separation Minimums and other airspace restrictions. Analog gauges are becoming antiquated and difficult to maintain and require replacement in order to meet these and upcoming navigational changes. Incorporation of MDS into the cockpit will replace over 100 dials and gauges with integrated display screens that are customizable for the E-6. The MDS requires modification of a Commercial Off-The-Shelf (COTS) item to an E-6 configuration — Because it is similar to commercial equipment, any further modifications will be less costly. Upgrades to installed systems and changes to Mission Computer Systems can then be accomplished by changing software without changing the hardware. The MDS program has been restructured to increase A/C availability, reduce fleet A/C configurations, avoid \$16M logistics costs, increase operational flexibility, maximize production effort and allow trainer modifications to be done concurrently. GPS-A receiver controls are required to support currently installed military GPS receiver. Nav Table update allows the station the ability to provide services during a degraded mission, and support the E-6 Mission Commander and Battlestaff.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: MDS was granted a Milestone III decision on 5 May 1998. Contract award September 9, 1999. Specific and separate Non-Recurring Engineering (NRE) efforts for systems integration of COTs hardware/software occurred in the first two years. Production of NRE COTS article for E-6 configuration began October 00 with subsequent installation and testing in February 01. Production deliveries/installations funded through September 05. Funding provided via Program Decision Memorandum (PDM) -1 requires partial spread of NRE efforts. Cost growth from original estimates allows for 1 NRE A/C Kit/Installation, a16 Production A/C Kits/Installations and 1 Flight Trainer Kit/Install. Initial Operating Capability scheduled for March 04. Increased cost and schedule requirements for modification of the Operational Flight Trainer (OFT) have required a Milestone Decision Authority (MDA) approved change #2 to the Acquisition Program Baseline (APB). This modification, approved 14 May 2001, provided additional funding for OFT #1 (by delaying aircraft modifications) and cut funding for OFT #2 in FY04 (funding to be used to complete remainder of aircraft modifications). Subsequent program restructure and TOA realignment provides full funding for the program with Full Operational Capability (FOC) planned for March 05. In FY04 and FY05 GPS-A receiver controls will be procured to control the currently installed military GPS receiver. The Nav Table Update NRE will start in FY04 with kits procurements and installations in FY04 through FY05

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	Years	FY:	2002	FY 2	2003	FY:	2004	FY	2005	FY 2	2006	FY:	2007	FY 2	2008	FY:	2009	To C	omplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Nav Update							8	0.8	8	0.8												
MDS Kit	3	2.7	5	3.7	6	4.7	2	1.2														
Installation Kits N/R		20.9						1.3														
Installation Equipment																						
MDS Equip	3	23.4	5	19.4	6	15.3	2	2.4														
Nav Update							8	1.2	8	1.2												
GPS "A"					6	0.2	9	0.3														
Installation Equipment N/R								1.0														
Engineering Change Orders																						
Data		0.5																				
Training Equipment		1.0		1.8	2	1.8	1	2.8														
Support Equipment						0.5																
ILS		1.2		0.2		0.1		0.1														
Other Support		2.8		1.5		1.2		1.4		0.7									<u> </u>			
Interim Contractor Support																						
Installation Cost	1	3.3	2	4.6	6	9.6	12	10.7	14	5.1												
Total Procurement		55.8		31.1		33.3		23.0		7.8												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Trainer installation include; one in FY02, one in FY03 and one in FY04

xhibit P-3a																								
ODELS OF	SYSTEM	IS AFFEC	CTED:	E-6A/E-	6B						MOE	OIFICATIO	N TITLE:	Multifur	ction Dis	play Syst	em, Nav	Update	(OSIP 2	7-99)				
NSTALLATI	ON INFOR	RMATION	l :																					
IETHOD OI	F IMPLEM	IENTATIO	ON:											Contracto	or Drive In M	Modificatio	n							
DMINISTR.	ATIVE LE	ADTIME:			1		Months	<u>.</u>			PRODU	JCTION LI	EADTIME	i:		10		Months	<u>.</u>					
ONTRACT	DATES:		FY 2002:		No	v-01			FY 2003:		Fe	b-03			FY 2004:		Va	rious		F`	Y 2005:		Va	rious
ELIVERY [FY 2002:					_				g-03		=	FY 2004:									rious
LLIVLIXI	AIL.		1 1 2002.		Au	ig-02	-		1 1 2003.		Au	g-03		-	1 1 2004.		va	ious		- '	1 2003.		va	illous
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	n Millions FY	2006	FY:	2007	FY	2008	FY	2009	To (Complete	TOTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty		Qty	\$
	& PY () ki	its	1	3.3	1	1.4	1	1.0																
FY 2002			1			1	4	4.1		0.6		1			!						-			
FY 2003 FY 2004			1		1	1			6	3.8 1.2		3 2.7			1						+			
FY 2005			1						4	1.2					1						+			
FY 2006																								
FY 2007																								
FY 2008																								
FY 2009						<u> </u>															-			
To Comp	olete () kits	S	1	3.3	.	1.4	5	5.1	11	5.7	14	5.1	-		-				-		+			
GPS"A" (al qantities does not re allation Sch	equire Ins		r Installa		ners	FY:	2003			FY	2004		ı	FY:	2005		ı	FY 2	006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
ln	1			1		1	1	2	1	2	1	2	2	2]		
Out						1	1	2	1	2	1	2	2	2	2							J		
											0000				1		1							
	1	FY 2	3	4	1	FY:	2008	4	1	FY 2	2009	4	-	Γο nplete	то:	TAL								
In	'		3	4			3	- 4			3	-	COII	ipiete	1	16	1							
Out			1												_	16								
	FY 2001 & Prior	on Schedu	FY 2	3	4	1	FY:	2003	4	1	FY 2	2004	4 2	1 4	FY:	2005	4 2	1	FY 2		4]		
Out													3	4	3	3	3					1		
																						-		
		FY 2					2008				2009		-	Го										
	1	2	3	4	1	2	3	4	1	2	3	4												
-			Ŭ	<u> </u>							3	4	Con	plete	_	TAL								
In Out			Ľ				J				3	4	Con	nplete	1	16 16								

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Modified Miniature Receive Terminal (OSIP 10-01)

MODELS OF SYSTEMS AFFECTED: <u>E-6A/E-6B</u> TYPE MODIFICATION: <u>Obsolescence</u>

DESCRIPTION/JUSTIFICATION: The Air Force E-4B and the Navy E-6B comprise the World Wide Military Command and Control System (WWMCCS) Airborne Resources (WABNRES). They operate within the Nuclear Command and Control System (NCCS) serving principally as a survivable, reliable, endurable airborne command and control communications link between the President, Secretary of Defense and U.S. strategic and non-strategic forces. The WABNRES assets have a requirement to receive very low frequency/low Frequency (VLF/LF) Emergency Action Messages (EAMs) and to communicate with one another in a nuclear jamming stressed environment. The Office of the Secretary of Defense (OSI) Strategic CS Review of 3 September 1991 outlined a new strategic airborne command and control architecture. Key to this revised architecture is a modernization of the E-4B/E-6B VLF/LF capability to include the implementation of the High Data Rate (HIDAR) mode. As stated in the Joint Mission Need Statement for Very Low Frequency/(Low Frequency (VLF/LF) receive capability for Strategic Command, Control, and Communications, CAF-NAV OPORD 330-92, the current VLF/LF receives (Archav) of the E-6B with reliable VLF/LF receives apability that will insure interoperability and connectivity with the forces in support of the new Command, Control and Communication (C3) architecture. The MMRT program has been restructured to increase A/C availability, reduce fleet A/C configurations, reduce logistics costs, increase operational flexibility, and maximize production effort. Part of the MMRT modification is to add an additional Computer Display, which has become obsolete. This unit will be replaced with a "Flat Panel Display" on the fifth aircraft installation. The first four MMRT modificed aircraft will be replaced with a "Flat Panel Display" in FY03.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Joint program with Air Force as lead service. Preliminary Design Review completed. Critical Design Review completed March 1998. Prototype installation achieved October 1999. Contractor Test/Developmental Test achieved November/December 1999. Congress reduced FY00 funding to \$0 due to program slippage. Initial Operational Test and Evaluation complete 24 March 2000. MSIII decision 25 May 2000. Production contract August 2001.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY :	2003	FY 2	2004	FY:	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
MMRT Install Kit	9	1.5	6	1.3																		
Flat Panel					8	0.1	7	0.1	1	*												
SIL			1	0.2																		Ĺ
Refurbish Kit			1	*																		
Installation Kits N/R						0.1																
Installation Equipment																						
DKU Equip	9	0.2																				L
Flat Panel					8	0.1	7	0.1	1	*												
Installation Equipment N/R																						<u> </u>
Engineering Change Orders																						<u> </u>
Data		*																				<u> </u>
Training Equipment	1	0.8	1	0.6		0.2																<u> </u>
Support Equipment																						<u> </u>
ILS		0.2																				<u> </u>
Other Support		0.2		0.7		0.3		0.6		0.2												<u> </u>
Interim Contractor Support		0.1																				
Installation Cost			2	2.1	17	3.2	14	4.0	2	1.1												
Total Procurement		3.0		4.9		4.0		4.8		1.4						I						1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. First MMRT installation performed with Air Force RD&T money
- 4. First Four A/C Flat Panel install Separately -remaining installed as part of MMRT.

Exhibit P-3a																									
MODELS O	F SYSTEMS	S AFFECT	ED:	E-6A/E-	6B					-	MOD	IFICATIO	N TITLE:	Modified	Miniature	e Receive	e Termina	al (OSIP 1	0-01)						
INSTALLAT	ION INFOR	MATION:																							
METHOD O	F IMPLEME	NTATION	:											Contra	tor Field M	lodification	1								
ADMINISTR	ATIVE LEA	DTIME:			2		Months	_			PRODU	CTION LE	EADTIME	:		varies		Months	·						
CONTRACT	DATES:		FY 2002:		De	c-01		_		FY 2003:		Dec	:-02			FY 2004:		Dec	:-03		=,	FY 2005:		De	ec-04
DELIVERY I	DATE:		FY 2002:		Jur	n-02		_		FY 2003:		Jar	ı-03			FY 2004:		Jar	ı-04		_	FY 2005:		Ja	n-05
												(\$ ir	n Millions)											_
	Cost:		Prior	Years	FY:	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY 2	2007	FY:	2008	FY	2009	To Co	mplete	TC	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 20	01 & PY()	kits			1	1.9	6	2.5	2	1.1															
FY 20	02 () kits								5	2.9	1	1.1													
FY 20	03 () kits						8	0.1																	
FY 20	04 () kits								7																
FY 20	05 () kits										1														
FY 20	06 () kits																								
FY 20	07 () kits																								
FY 20	08 () kits																								
FY 20	09 () kits																								
To Co	mplete () k	its																							
TOTA	L				1	1.9	14	2.5	14	4.0	2	1.1													
F	nstall sched irst Four Fla Installation	t Panels ir					concurren	t with MM	IRT at no	cost.															
	FY 2001		FY 2	2002			FY:	2003			FY	2004			FY 2	2005			FY:	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In		1		1		1	1	2	2	1	1	2	3	1								1			
Out					1	1	1	1	1	2	1	2	2	2	1										
		- FV	2007		1	EV.	2000			EV.	2000			Го	1		1								
	1	2	3	4	1	2	2008	4	1	2	2009	4		nplete	TO	TAL									
lo.	+-		- 3	-				-	-		3	-	COII	ibiere											
In Out	+	+	+		-	 	 					 				5 5									
Out															<u> </u>										

Flat Panel Installation Schedule

	FY 2001		FY 2	2002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							4	2	2	1	1	2	3	1							
Out							4	1	1	2	1	2	2	2	1						

		FY 20	007			FY 2	2008			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

Note: First Four Installs performed separately -remaining installed as part of MMRT

hibit P-3a	Individual Modification

MODIFICATION TITLE: E-6 MISSION SUPPORT (OSIP 07-02)

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B TYPE MODIFICATION: TYPE MODIFICATION: Capability

DESDESCRIPTION/JUSTIFICATION: The program will correct Follow-On Test & Evaluation (FOT&E) (Sep 98) deficiencies by funding for design update and fabrication of new rewind machines, purchase of "off-the shelf" power carts to provide adequate aircraft power for full mission ground checkout, upgrade of the Frequency Referencing Auto Parallel Unit (FRAPU) to provide uninterrupted transfer of power from A/C to ground systems and replacement of aged Milstar Tactical Access Control (TAC) Batteries to ensure mission capability. There are currently too few rewind machines which are rapidly becoming unsupportable, resulting in the inability to replace the mission antenna at multiple locations when the Long Trailing Wire Antenna is lost. Current power carts do not provide adequate ground power causing system shutdown and failure of critical system components on A/C startup. Loss of Milstar battery power results in loss of Milstar capability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: February 03 procure "off-the-shelf" Power Carts. February 03 contract award for NRE to update the design of Rewind Machines, replacing obsolete components with off-the shelf technology, and start procurement. Additional units will be procured in FY04. FRAPU NRE and fabrication in FY05-FY08 with prototype installation aboard the E-6 A/C and validation/verification in FY06 — Upgrade complete FY09. Milstar TAC Battery NRE and fabrication for proof of concept in FY06. Purchase for use aboard the E-6 A/C in FY07-FY08.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY	2003	FY	2004	FY 2	2005	FY:	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete	Tot	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
FRAPU									1	*												
Installation Kits N/R										1.6												l
Installation Equipment																						
BATTERY TAC																						l
FRAPU									1	0.2												ı
Installation Equipment N/R										0.8												1
Engineering Change Orders																						ı
Data						0.6		0.2		0.1												1
Training Equipment						0.3		0.3		0.2												ı
Support Equipment					16	3.4	4	4.4														l
ILS						0.4		0.2		0.1												1
Other Support				0.3		0.3		0.9		0.5												
Interim Contractor Support																					<u> </u>	<u> </u>
Installation Cost																						ı
Total Procurement				0.3		4.9		5.9		3.4												

- Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. Includes Reeling Machine Trainer and Electrical Trainer

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B MODIFICATION TITLE: E-6 MISSION SUPPORT (OSIP 07-02)	TOTAL Qty \$
INSTALLATION INFORMATION:	
METHOD OF IMPLEMENTATION: Field Modification	
ADMINISTRATIVE LEADTIME: 1	
CONTRACT DATES: FY 2002:	
DELIVERY DATE: FY 2002: Varies FY 2003: Varies FY 2004: Varies FY 2005: Varies (\$ in Millions) Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete Qty \$	
Cost:	
Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete Qty \$ Qt	
Qty Qty <td></td>	
FY 2001 & PY () kits	Qty \$
FY 2002 () kits	
FY 2003 () kits	
FY 2004 () kits	
FY 2005 () kits	
FY 2006 () kits	
FY 2007 () kits	
FY 2008 () kits	
FY 2009 () kits	
To Complete () kits	
TOTAL	
Note:1. Install dollars and quantities do not include 1 trainer. 2 Battery Tac on A/C not support Equipment. Do not require Install Kits or Install. 3. Reeling machine trainer installion not required. stallation Schedule: FRAPU	
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006	
& Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4	
In In In In In In In In In In In In In I	
Out	
FY 2007 FY 2008 FY 2009 To	
1 2 3 4 1 2 3 4 1 2 Gomplete TOTAL	
ln 16 16	
Out 16 16	

Exhibit P-3a	Individual Modification

MODIFICATION TITLE: Correction Of Safety Deficiencies (OSIP 08-02)

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B TYPE MODIFICATION: TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Correction of safety deficiencies for the protection of personnel and equipment. FAA APA 19-98 requires a smoke detection system in the aircraft lower avionics bays. The safety modification also replaces fuel tank Kapton wiring, and an uncertified Cartridge Activated Device (CAD) (explosive) for severing the Long Trailing Wire Antenna under emergency conditions, installs new improved inertia reels and shoulder harnesses and provides the ability to transmit from the second Reel Operator's Intercom Communication System (ICS) position. The program takes advantage of available and emerging commercial technology for crew/aircraft safety.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: ECP to modify existing equipment -- Contract award Fy2003

FINANCIAL PLAN: (TOA, \$ in Millions)

ter Erit. (167t, \$ iii Nillions)		Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Smoke Detector					6	*	7	*	3	*												
Kapton Wire Fuel Pump							1	*	5	0.2												
Reel Ops																						
Installation Kits N/R				0.8		1.1		0.9		0.1												
Installation Equipment																						
Smoke Detector					6	0.2	7	0.2	3	0.1												
Kapton Wire Fuel Pump							1	*	5	0.2												
HPTS CAD Cutters					1	0.1	15	0.9														
Reel Ops																						
Inertia Reels							8	0.2	8	0.2												
Installation Equipment N/R						1.2		0.4		0.1												
Engineering Change Orders																						
Data						*		0.1		0.1												
Training Equipment					2	0.2	6	0.5														
Support Equipment						0.0																<u> </u>
ILS						0.2		0.1														
Other Support		ļ		0.2		0.3		0.9		0.2			<u> </u>		<u> </u>							
Interim Contractor Support																						<u> </u>
Installation Cost					8	0.4	37		17													
Total Procurement	I			1.0		3.6		6.5		1.6												1

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

OF SYSTEMS AFFECTED: TION INFORMATION: OF IMPLEMENTATION: RATIVE LEADTIME: IT DATES: FY 2002 DATE: FY 2002	2:																				
OF IMPLEMENTATION: RATIVE LEADTIME: IT DATES: DATE: FY 2002	2:	1						MODI	FICATIO	N TITLE:	Correcti	on Of Sat	fety Defic	ciencies (OSIP 08	-02)	_				
RATIVE LEADTIME: IT DATES: FY 2002 DATE: FY 2002	2:	1																			
T DATES: FY 2002 DATE: FY 2002	2:	1										Fie	eld Modific	ation					_		
DATE: FY 2002				Months				PRODU	CTION L	EADTIME	i:		4		Months	5	=				
	2:					FY 2003:	Feb	o-03		Y 2004:		Nov-03		_		FY 2005:		Nov-04		_	
					_	FY 2003:	Арі	r-03		Y 2004:		Mar-04				FY 2005:		Mar-05		_	
										(\$ in Mi	llions)										
Cost: Prio	or Years	FY	2002	FY 2	2003	FY:	2004	FY 2	2005	FY 2	2006	FY:	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY () kits																					
FY 2002 () kits																					
FY 2003 () kits		ــــــ	ļ	6	0.3	1	0.1														
FY 2004 () kits	_		<u> </u>	<u> </u>		30	1.8		*												
FY 2005 () kits				└	Ь——			16	0.5				ļ				ļ				
FY 2006 () kits			├ ──	igwdown	├──									<u> </u>		1		<u> </u>		1	
FY 2007 () kits			├──	┢──	 																
FY 2008 () kits FY 2009 () kits					Ь——											1					
To Complete () kits					1																
TOTAL		-		\vdash																	
Note: 1. Does not include 9 Trainers.				6	0.3	31	1.9	17	0.5												
				6	0.3	31	1.9	17	0.5												
Note: 1. Does not include 9 Trainers. Smoke Dectors	2002				0.3	31	1.9	17				FY	2005			FY	2006		1		
Note: 1. Does not include 9 Trainers. Smoke Dectors	2002	4	1			31	1.9			4	1	FY:	2005	4	1	FY 2	2006	4			
Note: 1. Does not include 9 Trainers. Smoke Dectors FY 2001 FY		4	1	FY 2	2003			FY:	2004		1 2			4	1		1	4			
Note: 1. Does not include 9 Trainers. Smoke Dectors FY 2001 FY		4	1	FY 2	2003	4	1	FY 2	2004	4			3	4	1		1	4			
Note: 1. Does not include 9 Trainers.		4		FY 2 2 2 1	2003 3	4	1 2 2	FY 2 2 1 1 1	2004	4 2 2	2	2	3	4	1		1	4			
Note: 1. Does not include 9 Trainers. Smoke Dectors	3		FY 2	FY 2 2 2 1 1 2008	2003 3 2 1	4 1 1	1 2 2 FY:	FY 2 2 1 1	2004 3 2 2	4 2 2	2 2	2	2 2	4	1		1	4			
Note: 1. Does not include 9 Trainers.		4		FY 2 2 2 1	2003 3	4	1 2 2	FY 2 2 1 1 1	2004	4 2 2	2 2	2 2 TO	3 2 2 2 TAL	4	1		1	4			
Note: 1. Does not include 9 Trainers. Smoke Dectors	3		FY 2	FY 2 2 2 1 1 2008	2003 3 2 1	4 1 1	1 2 2 FY:	FY 2 2 1 1	2004 3 2 2	4 2 2	2 2	2 2 TO	2 2	4	1		1	4			

Reel Ops

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ln																					
Out																					

		FY 20	007			FY:	2008			FY:	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In													16	16
Out													16	16

HPTS CAD Cutters

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
_	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									1		5	5	5								
Out									1		5	5	5								

		FY 20	007			FY:	2008			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

Inerta Reels

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											2	3	3		2	3	3				
Out											2	3	3		2	3	3				

		FY 2	007			FY:	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

MODIFICATION TITLE: Technology Insertion (OSIP 03-04)	
MODELS OF SYSTEMS AFFECTED: E-6A/E-6B TYPE MODIFICATION: TYPE MODIFICATION: Capability	

DESCRIPTION/JUSTIFICATION: Funding to fix supportability/obsolescence issues, address interoperability issues, update systems and insert new technologies into the E-6 platform. With the E-6's 35 individual computer based communications and mission systems, Technology Insertion addresses supportability, new technologies, systems updates and interoperability issues in the areas of: Mission Computer Set (MCS) hardware obsolescence, Video C4I for live Battlestaff conferencing, Autodin Modern replacement and Mode 1 terminal installation for Autodin dial-up capability, Morse code to ASCII text conversion, and the installation of Range Mode Extension (REM) in the MMRT for VLF community compatibility. The MCS is rapidly becoming unsupportability required to ensure this mission critical system continues to operate. Providing video conferencing for the Battlestaff supports required Network Centric Warfare real time data relay and decision-making processes. USSTRATCOM has requested upgrade and modernization of the Autodin Modern and installation of the Mode 1 terminal to ensure continued communications connectivity for the Battlestaff. The E-6 is required to relay Morse code to ASCII converter. The installation of REM into MMRT ensures E-6 communications compatibility with the remainder of the VLF community

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FY04 contract awards for NRE to update MCS hardware and procure 1 unit with installation in FY05 -- Additional 15 units fabricated and installation complete in FY06. Autodin Modem and Mode 1 contract for NRE in FY04-05 with fabrication and installation in FY06. C4I NRE contract in FY06 with fabrication and installation in FY06. REM NRE contract in FY07 with fabrication in FY08 and installation in FY09.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY 2	2003	FY 2	004	FY 2	2005	FY	2006	FY	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
HF Morse Converter							16	0.1														
C4I																						
REM																						
LAB																						
SIL																						
Installation Kits N/R																						
Installation Equipment																						
HF Morse Converter							16	0.1														
C4I																						
REM																						
LAB							2	*	1	*												
SIL							2	*	1	*												
MCS							1	0.1														
Auto DIN Modem							16	0.1														
Auto DIN Mode-1									16	0.1												
Installation Equipment N/R								3.1		3.1												
Engineering Change Orders																						
Data								0.3		0.2												
Training Equipment							4	0.1	2	*												
Support Equipment																						
ILS								0.1		0.2												
Other Support								1.4		0.7												
Interim Contractor Support																						
Installation Cost							40	0.1	21	0.1												
otal Procurement								5.6		4.5					1		1	l				

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50
- 3. Auto Din Modem, Auto Din Mode 1, and MCS require no Installation Kits.
- 4. Includes Lab, SIL and MAS trainers

OF SYS	STEMS AFFE	CTED:		E-6A/E-6	6B						MODI	FICATIO	N TITLE:	Technol	logy Inse	rtion (OS	P 03-04)							
															3,20	,,,,,,								
ATION IN	NFORMATIO	N:																						
OF IMP	LEMENTATION	ON:														F	ield Modific	ation						
RATIVE	E LEADTIME:	:		-	1		Months	<u>.</u>			PRODU	CTION I	.EADTIM	≣:	-	Varies		Months						
CT DATE	EQ:	FY 2002:		Va	ries				FY 2003:	\/-	rice		FY 2004:			Varies				FY 2005:		Varies		
							•					_							-					
Y DATE:		FY 2002:		Va	ries		•		FY 2003:	Va	aries	-	FY 2004:			Varies				FY 2005:		Varies		
	Cost:		Prior	Years	FY	2002	FY	2003	FY:	2004	FY	2005	FY	(\$ in N 2006	Millions)	2007	FY 2	008	FY	2009	To Co	mplete	TO	ΓΑΙ
	0001.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	01 & PY () ki	its																						
	02 () kits			ļ																				
	03 () kits 04 () kits		ł		-	-			32	0.1	1				ł	-			-			-		
	05 () kits								32	0.1	16	0.1												
FY 200	06 () kits																							
EV 200	07 () kits																							
FY 200	08 () kits													-		+								
FY 200	09 () kits	s																						
FY 200 FY 200 To Con TOTAL Note: A	09 () kits mplete () kits L .uto Din Mode	em, Auto D					Install K	its.	32	0.1	17	0.												
FY 200 FY 200 To Con TOTAL Note: A	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto D	SILs or	12 Traine					32	0.1														
FY 200 FY 200 To Con TOTAL Note: An Does no	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	SILs or	12 Traine	ers Install	s	FY	2003			FY	2004				2005			FY					
FY 200 FY 200 To Con TOTAL Note: An	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto D	SILs or	12 Traine					32	0.1			4	1	FY 2	3	4	1	FY: 2	2006	4			
FY 200 FY 200 To Con TOTAl Note: Al Does no	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	SILs or	12 Traine	ers Install	s	FY	2003			FY	2004		1		_	4	1			4			
FY 2000 FY 2000 TO Con TOTAL Note: Al Does not MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2	12 Traine	ers Install	1	FY 2	2003		1	FY 2	2004	4			3	4	1			4			
FY 200 FY 200 To Con TOTAl Note: Al Does no	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007	12 Traine	4	1 1 FY 2	FY 2	2003	4	1 FY	FY 2 2 2 2009	2004	4	Го	2	1 1	4	1			4			
FY 200 FY 200 To Con TOTAL Note: An Does no	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2	12 Traine	ers Install	1	FY 2	2003		1	FY 2	2004	4 Com	Γο nplete	Z TO	3 1 1 1 OTAL	4	1			4			
FY 200 FY 200 TO COI TOTAI Note: Al Does no MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007	12 Traine	4	1 1 FY 2	FY 2	2003	4	1 FY	FY 2 2 2 2009	2004	4 Com	Го	TO	1 1	4	1			4			
FY 200 FY 200 To Con TOTAI Note: Al Does no	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007	12 Traine	4	1 1 FY 2	FY 2	2003	4	1 FY	FY 2 2 2 2009	2004	4 Com	Γο nplete	TO	3 1 1 1 DTAL	4	1			4			
FY 200 FY 200 TO Cot TOTAI Note: Ai Does no MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007 3	2002 3	4	1 1 FY 2	FY 2 2 2008 3	2003	4	1 FY	FY 2 2009 3	2004 3	4 Com	Γο nplete	TO	3 1 1 1 DTAL	4	1	2	3	4			
FY 200 FY 200 TO Cot TOTAI Note: Ai Does no MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007	2002 3	4	1 1 FY 2	FY 2 2 2008 3	2003	4	1 FY	FY 2 2009 3	2004	4 Com	Γο nplete	TO	3 1 1 1 DTAL	4	1		3	4			
FY 200 FY 201 TO Coi TO Coi TOTAI Note: A Does no MCS In Out In C41 In	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007 3 FY 2	12 Traine	4	FY:	FY 2 2008 3	2003 3 4 4 2003	1	1 FY 2	FY 2 2 2 2009 3 3 FY	2004 3 4	4 Com	Fo applete 15	TO FY	3 1 1 1 0TAL 16 16			2 FY:	3				
FY 200 FY 200 TO Cot TOTAI Note: Ai Does no MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 0007 3 FY 2	12 Traine	4	FY:	FY 2 2008 3	2003 3 4 4 2003	1	1 FY 2	FY 2 2 2 2009 3 3 FY	2004 3 4	4 Com	Fo applete 15	TO FY	3 1 1 1 0TAL 16 16			2 FY:	3				
FY 200 FY 201 TO Coi TO Coi TOTAI Note: A Does no MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12 Traine	4	FY 2	FY 2 2008 3	2003 3 4 4 2003	1	1 FY 2	FY 2 2009 3 FY 2	2004 3 4	Com	Fo applete	TO FY	3 1 1 1 0TAL 16 16			2 FY:	3				
FY 200 FY 201 TO Coi TO Coi TOTAI Note: A Does no MCS	09 () kits mplete () kits L uto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12 Traine	4	FY:	FY 2 2008 3 FY 2	2003 3 4 4 2003 3 3	1	1 FY 2	FY 2 2009 3 FY 2	2004 3 4	Com	To explore 15 15 15	TO FY 2	3 1 1 1 2005 3			2 FY:	3				
FY 200 FY 201 TO Coi TO Coi TOTAI Note: A Does no MCS	99 () kits mplete () kits tuto Din Mode ot include the	em, Auto E e 6 Labs, 6	FY 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12 Traine	4 1	FY:	FY 2 2008 3	2003 3 4 4 2003	1 1	1 FY 2	FY 2 2009 3 FY 2	2004 3	4 Com	Fo applete	TO FY 2	3 1 1 1 0TAL 16 16			2 FY:	3				

Morse C	Converte
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	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											5	5	6								
Out											5	5	6								

		FY 20	007			FY:	2008			FY:	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

REM

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																					
Out																					

		FY 20	007			FY:	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In													89	89
Out													89	89

Auto DIN Modem

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											5	5	6								
Out											5	5	6								

		FY 20	007			FY:	2008			FY:	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

Auto DIN Mode-1

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														5	5	6					
Out														5	5	6					

		FY 20	007			FY:	2008			FY:	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														16
Out														16

Shihit P-3a	Individual Modification

MODIFICATION TITLE: Services Life Extension Program (OSIP 01-05)

MODELS OF SYSTEMS AFFECTED: E-6B TYPE MODIFICATION: Obsolescence

DESCRIPTION/JUSTIFICATION: The RDT&E funding is required to do extensive engineering analysis using modern analytic tools (Service Life Assessment Program - SLAP) is required to identify E-6B structural areas requiring rework to extend the E-6B service life to 2040+ (Service Life Extension Program - SLAP). The procurement effort starting in FY05 with the nonrecurring engineering installation kits for ECP prep resulting from the RDT&E assessments. Beginning in FY06 funding is required for procurement and installation of kits. Current E-6 usage indicates SLEP must commence in 2006 to prevent the E-6 airframe.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FY03 contract award for SLAP to identify structural areas requiring rework. SLEP Milestone B in FY05.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY:	2004	FY:	2005	FY 2	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E						2.8		3.2		1.0												
PROCUREMENT																						
Installation Kits																						
Kits																						
Installation Kits N/R										2.4												
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement										2.4												

Notes

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

S OF SYSTEMS AFFECTE	D:	E-6A/E-	6B						MOD	FICATIO	N TITLE:	Services	Life Ext	ension Pr	ogram (C	OSIP 01-0	05)					
ATION INFORMATION:																						
O OF IMPLEMENTATION:														Field M	odification	1						
STRATIVE LEADTIME:			1		Months				PRODU	CTION L	EADTIM	E:		6		Months	S	Varies		Months	<u>.</u>	
ACT DATES: FY	2002:				_		FY 2003:			-	FY 2004:						_	FY 2005				-
RY DATE: FY	2002:				_		FY 2003:			-	FY 2004:						_	FY 2005				-
											(9	in Million	ns)									
Cost:	Prio	Years	FY:	2002	FY:	2003	FY:	2004	FY	2005		2006	_	2007	FY	2008	FY	2009	To C	omplete	ТО	TAL
	Qty		Qty		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 & PY () kits																						
FY 2002 () kits																						
FY 2003 () kits												ļ										
FY 2004 () kits																						
FY 2005 () kits	_																-					
FY 2006 () kits	_																-		-	-		_
FY 2007 () kits FY 2008 () kits		-	1				-					-					1		.	1	1	
FY 2008 () kits	-																					
To Complete () kits																						
TOTAL	-																					
Note:	EV.	2000			E)(1	2000			F)(2004			5/4	2005						1		
SLEP		2002		1		2003		1		2004		1		2005		1		2006	1 4]		
SLEP	FY:	2002	4	1	FY:	2003	4	1	FY:	2004	4	1	FY:	2005	4	1	FY 2	2006	4]		
SLEP FY 2001 & Prior In			4	1			4	1			4	1			4	1			4] - = -		
SLEP			4	1			4	1			4	1			4	1			4			
SLEP FY 2001 & Prior In Out	1 2		4		2		4		2						4	1			4			
SLEP FY 2001 & Prior In Out			4				4				1	Го	2	3	4	1			4]		
SLEP FY 2001 & Prior In Out	1 2 FY 2007	3		FY:	2008	3		FY	2009	3	Com		2 TO		4	1			4]		

Exhibit P-40, BUDGET ITEM JUSTIFICAT	ON								DATE:			
											February 200	3
APPROPRIATION/BUDGET ACTIVITY	•						P-1 ITEM NOMEN	ICLATURE				
Aircraft Procurement, Navy/APN-5 Aircraft M	odifications								Executiv	e Helicopter Mo	difications	
Program Element for Code B Items:					Other Related	Program Eleme	ents					
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	268.0	A	25.8	15.8	26.5	21.9	17.5	15.9	16.2	16.5	23.8	447.9

This line item funds modifications to the (11) VH-3D and (8) VH-60N Executive Helicopters. These aircraft are assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D Service Life Extension Program (SLEP) consists of airframe, mechanical, and electrical upgrades which will increase the service life from 7,500 to 14,000 hours and thereby extend the executive mission life from the year 1998 past the year 2010. The VH-60N mid-life upgrade will provide improved mission performance. The Communications/Navigation/Survivability modification to both the VH-3D and VH-60N consists of a communications system upgrade to provide communications commonality between Executive Helicopters, Air Force One, and N-Cap; a Miniaturized Airborne GPS Receiver (MAGR); and a tailored electronic warfare (EW) suite. The VH-60N Cockpit consists of an upgrade to an all-glass instrumentation, moving map display, color radar with stormscope, ARC-210 with SINCGARS/HAVEQUICK capability, coupled autopilot function, and cordless headsets. The overall goal of modifications budgeted in FY 2004 and FY 2005 is to continue procurement efforts in accordance with the planned procurement strategy implemented during FY 1993.

The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
25-90	VH-3D Safety, Reliability and Service Life	122.8	0.4									123.2
	Extension Program (SLEP)											
22-93	Executive Helicopter Survivability Program	102.4	18.6	2.5	4.7							128.2
23-93	VH-60N Mid-Life Upgrade	42.8	0.9									43.7
09-02	VH-60N Cockpit Upgrade		3.0	1.2	10.5	10.1	10.2	10.4	16.2	16.5	23.8	101.8
14-02	Communication Suite Upgrade		2.9	12.1	11.3	11.8	7.3	5.5				50.9
	DERF (non add)		10.1									
	Total	268.0	25.8	15.8	26.5	21.9	17.5	15.9	16.2	16.5	23.8	447.9

Note: Totals may not add due to rounding.

*FY02 DERF funding augments OSIP 14-02, Communication Suite Upgrade

CLASSIFICATION: UNCLASSIFIED DD Form 2454, JUN 86 ITEM NO. 46 PAGE NO. 1

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	VH-3D SAFETY, RELIABILITY AND SERVICE LIFE EXTENSION PROGRAM (SLEP) (OSIP	25-90)	-
MODELS OF SYSTEMS AFFECTED:	VH-3D	TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: The VH-3D is assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D was delivered in 1975. The original airframe life, based on the SH-3 and White House half life requirements, was 5000 hours. An analytic study using SH-3 and VH-3D usage data increased that life to 8500 hours. At the current usage (30-35 hrs/month), the VH-3D reached its Executive mission life in FY 1997-2000. With the cancellation or delay of the MV-22 there is no apparent replacement for the VH-3D. A Service Life Extension Program (SLEP) (for 11 aircraft) is necessary to increase VH-3D service life from 8,500 hours to 14,000 hours, extend Executive mission life to the year 2015, and qualify the VH-3D (11 aircraft) at a higher maximum gross weight (max. G. W.) using off the shelf components. Growth in the empty weight of the VH-3D, since initial procurement, has reduced the number of passengers and quantity of fuel carried on White House missions and decreased the safety margin. Increasing the amount of usable engine power will provide a greater margin of safety. Newer components will be more reliable. Mission communications will become more reliable with the addition of a Communication Systems Upgrade (CSU) as directed by the White House.

Modifications include:

Completed ECP's under this OSIP including strakes (part of ECP 5976), ALQ-144 (ECP 5966), IBIS and Overtorque Warning System (ECP 5962) and reliability kits to improve mission availability, reduce maintenance manhours, and cut life-cycle costs. Ongoing ECP's include:

- (1) SLEP nonrecurring design engineering to integrate airframe and component replacement due to fatigue or obsolescence was initiated in FY 1990 to support a FY 1993 prototype kit/installation and validation buy, with production kit procurement in FY 1995, FY 1996, FY 1997 and FY 1998. SLEP kits are identified by Phase I is the core kit and comprises all required component and structural changes to extend the VH-3D service life. Portions of the Phase I kit were installed on the VH-3D SLEP/CNSU Prototype. The remainder were installed on the VH-3D SLEP/CNSU prototype during an FY 2000 update. Phase II incorporates cockpit sliding windows and will be installed at the O-Level.
- (2) Communication System Upgrade (CSU) will ensure communications commonality between Air Force One, the National Emergency Airborne Command Post (NEACP), White House Communications Agency (WHCA), and Marine One. This commonality, as directed by the White House, will quarantee communication links under any requirement and will comply with the National Security Directive for Executive Fleet Airborne Architecture. Systems include: 14 station ICS, HF radio with ALE and ANDVT, a fourth Executive FM radio, a full duplex SATCOM (MUST Radio), and an upgraded systems computer. To guarantee avionics commonality between AF-1, NEACP, and Marine One, it is imperative all CSU avionics were procured in FY 1994. All proposed CSU avionics are NDI from various on going programs. Due to this program's small order quantities, future production or modification cannot be assured. All Executive FM radios were procured in FY 1992 to ensure commonality and facilitate economic ordering quantities. One prototype kit was procured in FY 1994 with the remaining production kits procurements in FY 1995 through FY 1998.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Nonrecurring engineering (NRE) for SLEP started in FY 1990. Naval Air Warfare Center, Aircraft Division (NAWCAD), Warminster began developing CSU avionics and software integration in FY 1991 utilizing the VH-60 avionics as a baseline and NVH-3A as an integration platform. NAWCAD will modify off the shelf components for incorporation into the CSU kits. Sikorsky Aircraft developed the interior modifications as part of the nonrecurring engineering of SLEP. Prototype SLEP installation began in Oct. 1994 and completed in July 1997. Development and Operational Testing was completed in November 1998. Initial Operating Capability was March 1999. Full Operating Capability was October 2002.

UNCLASSIFIED DD Form 2454, JUN 86 CLASSIFICATION: ITEM NO. 46 PAGE NO. 2

	Prior	Years	FY:	2002	FY:	2003	FY 2	2004	FY	2005	FY:	2006	FY 2	2007	FY:	2008	FY 2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$		\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Reliability Kit	11	0.8																				
ALQ-144 Kit	8	0.2																				
SLEP Kit	22	9.6																				
Comm System Upgrade Kit	12	10.9																				
IBIS Kit	11	0.3																				
Installation Kits N/R		37.6																				
Installation Equipment																						
IBIS	11	0.5																				
FM Executive Radio	17	0.8																				
Mil Aide/Fill Panels		0.6																				
APN-194		0.1																				
IRU's		0.1																				
Strake Support		*																				
RF Switches		0.2																				
Comm System Upgrade	12	6.0																				
OWS Upgrade		0.1																				
Installation Equipment N/R		7.5																				
Engineering Change Orders																						
Data		1.8																				
Training Equipment		0.1																				
Support Equipment		1.9																				
LS		0.5																				
Other Support		26.4		0.4																		
Interim Contractor Support																						
Installation Cost	59	16.8													I							
otal Procurement		122.8		0.4																		

Notes

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a																								
MODELS OF	SYSTEM	S AFFECT	ED:	VH-3D							MOD	IFICATIO	N TITLE:	VH-3D S	afety, Relia	abilty, and	SLEP							
NSTALLATIO	ON INFOR	MATION:																						
METHOD OF	IMPLEME	ENTATION:	: .	Installatio	n of IBIS,	SLEP Phas	se I kits, Co	ommunicat	tions Syste	ms Upgrad	de, and Str	ake will be	at SPAR.	Installatio	n of ALQ-1	44 Phase L	ock Kit w	ill be by Dr	ive-In-Mod	d. (All turn	n-key in FY	1996 and	prior fisca	l years.)
DMINISTRA	ATIVE LEA	DTIME:	-			5	Months	<u>-</u>			PRODU	CTION LE	ADTIME	:			20	Months						
CONTRACT	DATES:	FY 2002:					_		FY 2003:					•	ı	FY 2004:					_ !	FY 2005:	:	
ELIVERY D	ATE:	FY 2002:					_	1	FY 2003:						ı	FY 2004:					_	FY 2005:	:	
												(9	in Millior	ns)										
	Cost:		Prior \	Years	FY	2002	FY	2003	FY 2	2004	FY 2	2005		2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () kit	S	59	16.8																				
FY 2002	•				<u> </u>	<u> </u>	<u> </u>	<u> </u>											L					
FY 2003						<u> </u>	<u> </u>	<u> </u>	<u> </u>															
FY 2004								<u> </u>																
FY 2005					<u> </u>	<u> </u>	↓	ļ	<u> </u>										<u> </u>					
FY 2006					<u> </u>	<u> </u>	↓	<u> </u>	<u> </u>															-
FY 2007					<u> </u>	<u> </u>		<u> </u>											<u> </u>					
FY 2008					<u> </u>	<u> </u>	<u> </u>	<u> </u>											├					<u> </u>
FY 2009	•				<u> </u>	<u> </u>	<u> </u>	<u> </u>											├					<u> </u>
	lete () kits					<u> </u>	├	 	<u> </u>										—				-	ļ
TOTAL			59	16.8	Щ		<u> </u>												<u> </u>					
Note: Asteris				ograde																				
ľ	FY 2001		FY 20	002			FY	2003			FY 2	2004			FY 2	2005			FY:	2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ln	12								7															
Out	11	1				Î																		
																						•		
ŀ		FY 20	07			FY:	2008			FY 2	2009		Т	ō										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
j				_		-	-	-	-		_	_	_	_	_									
In									1 3						1	2								

	FY 2001		FY 2	002			FY:	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	12																				
Out	11	1																			

		FY 20	007			FY 2	2008			FY 2	2009		То	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														12
Out														12

Exhibit P-3a	In	dividual Modification		
MODIFICATION TITLE:	EXECUTIVE HELICOPTER SURVIVABILITY PROGR	AAM (OSIP 22-93)		
MODELS OF SYSTEMS AFFECTED:	VH-3D/VH-60N	TYPE N	MODIFICATION:	SAFETY
DESCRIPTION/JUSTIFICATION: The VH-3D an	d VH-60N Executive Helicopters provide worldwide eme	ergency evacuation and executive transport missions for	or the President of	the United States.
1995 through FY 1998, and 7 VH-60N production testing on the prototypes. Installation of these sy (2) ORD OR-315-05-92 and OR-316-05-92 (3) An interim Auto Ignition system was dev (4) Two Aircrew Procedures Trainers/Simul	n kits were procured in FY 1996 through FY 1998. Sun ystems are being performed as part of ECP 5976 (VH-3I 2 apply. eloloped and installed on the VH-60N aircraft in FY 1994. lators (APT). s procured/installed on the VH-60N and VH-3D to prever /H-60N	vivability Kits will be installed on the NVH-3A Testbed pD) and ECP 3407 (VH-60N). Permanent systems will be installed coincident with the	prior to install on th	•
NAWC-AD. The first installation of TCAS/IFF was		for the VH-3D. TCAS installations will be complete in F	FY04. FY04 AN/A	rer. Software integration, which started in FY 1993, is being developed by APR-39A (V) 2 Radar Warning system, Tailored Emitter Identification Device ss testing and Operational Validation/Verification.

P-1 SHOPPING LIST
DD Form 2454, JUN 86 CLASSIFICATION: UNCLASSIFIED

FI	NANCIAL	PLAN:	(TOA,	\$ in Mil	lions)

	Prior	Years	FY	2002	FY 2	2003	FY 2	2004	FY	2005	FY 2	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	T	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VH-3D Survivability Kit	12	11.9																				
VH-60N Survivability Kit	9	5.7																				
VH-3D TCAS Kit	11	1.6																				
VH-60N Auto Ignition Kit	8	1.1																				
Installation Kits N/R		20.4																				
Installation Equipment																						
ALQ-144	19	2.4																				
MUST Radio	3	0.3																				
ALE-47 MLVS		0.1																				
ALE-47	11	0.7																				
VH-3D TCAS	11	0.9																				
APX-100 Upgrade	1	0.1			18	0.4																
FM Immunity VH-3D	11	0.2																				
FM Immunity VH-60N	8	0.1																				
APR-39A(V)2																						
Installation Equipment N/R		*		7.7																		
Engineering Change Orders		0.1																				
Data		4.1		*				0.4														
Training Equipment		13.6		7.0			2	0.1														
Support Equipment		1.2						0.1														
ILS		1.0																				
Other Support		19.6		2.7		0.7		2.5														
Interim Contractor Support																						
Installation Cost	50	17.2	3	1.2	3	1.3	3	1.5														
Total Procurement		102.4		18.6		2.5		4.7														

Notes:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

^{3.} Installation Kits for the ALQ-144 (19) were procured in FY 1990 for the VH-3D under OSIP 25-90. Installation Kits for the VH-60N delivered with the production aircraft.

7 2001 & PY (59) kits 50 17.2 3 1.2 3 1.3 3 1.5	LS OF SYSTEMS AFFECT																						
Survivability kits will be installed on VH-3D and VH-60N during SPAR.		ED:	VH-3D/VI	H-60N						MOD	IFICATIO	N TITLE:	EXECUT	IVE HELIC	OPTER S	URVIVAE	BILITY PRO	OGRAM					
Collision avoidance warning systems are currently being evaluated and will be incorporated during SPAR. (All turn-key in FY 1996 and prior fiscal years.) NISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 12 Months	LLATION INFORMATION:																						
NISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 12 Months FY 2005:	OD OF IMPLEMENTATION	l:	Survivabili	ty kits will	be installed	l on VH-3D	and VH-60	ON during S	SPAR.														
FY 2002:					_	-		ntly being					_	-	-		-	-	ars.)				
FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL	ISTRATIVE LEADTIME:	-			9	Months	•			PRODU	CTION L	EADTIME	:			12	Months	-					
Cost	RACT DATES: FY 2002:							FY 2003:						F	Y 2004:					_	FY 2005:		
Cost:	ERY DATE: FY 2002:						ı	FY 2003:						F	Y 2004:					_	FY 2005:		
Canon Cano											(\$	in Million	s)										
7 2001 & PY (59) kits 50 17.2 3 1.2 3 1.3 3 1.5	Cost:	Prior	Years	FY	2002	FY 2	2003	FY 2	2004	FY	2005	FY 2	2006	FY 2	007	FY 2	2008	FY 2	2009	To Co	mplete	TO	TAL
/ 2002 () kits		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
/ 2003 () kits // 2004 () kits // 2005 () kits // 2005 () kits // 2006 () kits // 2007 () kits // 2007 () kits // 2008 () kits // 2008 () kits // 2009 () kits		50	17.2	3	1.2	3	1.3	3	1.5														
/ 2004 () kits // 2005 () kits // 2006 () kits // 2007 () kits // 2008 () kits // 2009 () kits	2002 () kits																						
/ 2005 () kits																							
/ 2006 () kits // 2007 () kits // 2008 () kits // 2009 () kits																							
/ 2007 () kits // 2008 () kits // 2009 () kits																							
7 2008 () kits																							
/ 2009 () kits																							
	Complete () kits																						
DTAL 50 17.2 3 1.2 3 1.3 3 1.5	TAL	50	17.2	3	1.2	3	1.3	3	1.5														
	FY 2001	FY 2	002			FY 2	003			FY	2004			FY 2	005			FY 2	2006]		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006	& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
	12																				[
& Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 5 5 6 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7	11 1																						
& Prior 1 2 3 4 1 2 </th <td>FY 2</td> <td>007</td> <td></td> <td></td> <td>FY 2</td> <td>008</td> <td></td> <td></td> <td>FY :</td> <td>2009</td> <td></td> <td>Т</td> <td>'n</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	FY 2	007			FY 2	008			FY :	2009		Т	'n										
& Prior 1 2 3 4 1 2 </th <td></td> <td></td> <td>4</td> <td>1</td> <td></td> <td></td> <td>4</td> <td>1</td> <td></td> <td></td> <td>4</td> <td></td> <td></td> <td>TOT</td> <td>Δι</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			4	1			4	1			4			TOT	Δι								
& Prior 1 2 3 4 1 2 </th <td></td> <td>J</td> <td>4</td> <td></td> <td>۷</td> <td>J</td> <td>-</td> <td>-</td> <td></td> <td>J</td> <td>-</td> <td>COIII</td> <td>higie</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		J	4		۷	J	-	-		J	-	COIII	higie										
& Prior 1 2 3 4 1 2 </th <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>																							

Installatio	n Schedule	- VH-60N	Survivab	oility																	
	FY 2001		FY 2	2002			FY	2003			FY	2004			FY	2005			FY	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	9																				
Out	7			1	1																
																		-			
		FY 2	007			FY:	2008			FY	2009			ō			1				
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TC	TAL	_				
In																9	1				
																9	1				
Out																					
Out	1		l.			1	4				•				•						

Exhibit P-3a	1																					
MODELS C	F SYSTEM	S AFFECT	TED:	VH-3D						_	MOD	OIFICATIO	N TITLE:	EXECUT	IVE HELI	COPTER	SURVIVAI	BILITY PR	OGRAM			
INSTALLAT	TION INFOR	RMATION:																				
METHOD C	OF IMPLEM	ENTATION	N:	Collision	avoidance	warning sys	stems will	be incorpo	orated durin	ng SPAR.												
ADMINISTE	RATIVE LEA	ADTIME:			2		Months	<u>s</u>			PRODU	CTION LI	EADTIME	:			16	Months	<u>-</u>			
CONTRAC	T DATES:	FY 2002	:				-		FY 2003:					<u>-</u>		FY 2004	:				_	FY 2005:
DELIVERY	DATE:	FY 2002	:				-		FY 2003:					_		FY 2004	:				_	FY 2005:
Installation	on Schedule	e - VH-3D	TCAS																			
	FY 2001		FY 2	2002			FY:	2003			FY	2004			FY	2005			FY	2006]
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	<u> </u> =
In .	2		1	1	1		1	1	1	.	1	1	1									_
Out	1		l	1	1	1 1	_ 1	1	Į	1	1 1	1			1	1	1 1	I				
		FY 2	2007			FY 2	2008			FY	2009		1	ō			1					
I	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL						
<u>In</u>					<u> </u>				<u> </u>		-					11	-					
Out		1	I												l '	11						

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	VH-60N Mid-Life Upgrade (OSIP 23-93)			
MODELS OF SYSTEMS AFFECTED:	VH-60N		TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: The VH-60N is assigned to Marine Helicopter Squadron One (HMX-1) to support the President of the United States. This planned upgrade will correct identified deficiencies in aircraft performance and mission capabilities. Upgrades are required in system areas pertaining to environmental issues, communication and navigation. White House operational requirements for the VH-60N designate specific communication and mission improvement requirements.

Modifications are performed under ECP 3407 and will include:

- (1) Incorporation of a Communications System Upgrade. One prototype Communications System Upgrade kit was procured in FY 1994. Seven production communications system upgrade kits were procured in FY 1996 through FY 1998. The upgrade will provide communication system commonality between the VH-60N and VH-3D, Air Force One, National Emergency Airborne Command Post (NEACAP), and the White House Communications Agency (WHCA). Specifically the CSU will include the following:
 - (a) Addition of a fourth VHF/FM radio. This enhances system capability to one full duplex and two half duplex channels capable of secure and clear voice operation.
 - (b) HF Radio system capable of half duplex secure and clear voice operation. Must have embedded Automatic Link Establishment (ALE) capability and operationally securable with Advance Narrow Band Digital Voice Terminal (ANDVT).
 - (c) Full duplex SATCOM capability (25 Khz channel spacing (MUST Radio)).
- (2) Incorporation of MUG kit. Eight production MUG kits were procured in FY 1996 through FY 1998. The MUG kit will consist of:
- (a) Aircraft modifications to improve aircraft performance and reliability. Airframe modifications are as follows:
- An improved rotor brake system.
- (2) New APU components, including 35KVA generators, to improve reliability.
- (3) Improved tail landing gear to absorb greater stress and impact landings due to stress from increase operating weight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering (NRE) for the Mid-Life Upgrade began in 1993. Communications System Upgrade software integration, which started in FY 1992, is being developed by NAWC AD Warminster using the NVH-3A Testbed as an integration platform. The Naval AIr Warfar Center Aircraft Division is modifying off-the-shelf components for incorporation into CSU kits. Sikorsky Aircraft is developing the interior and structural modifications as part of the NRE. The prototype aircraft for the Communications System Upgrade Kit was inducted in June 1997. Development and Operational Lesting of the CSU software was completed in November 1999. First production MUG VH-60N aircraft was inducted in June 1998. Initial Operational Capability occurred in September 2002.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY:	2002	FY:	2003	FY	2004	FY 2	2005	FY	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Comm System Upgrade/MUG Kit	9	5.9																				
Installation Kits N/R		8.7																				
Installation Equipment																						
Comm System Upgrade	8	3.5																				
FM Radios	10	0.5																				
35KVA Generators	8	0.2																				<u> </u>
Installation Equipment N/R																						<u> </u>
Engineering Change Orders																						
Data		0.9																				
Training Equipment		0.2																				
Support Equipment		1.0																				
ILS		0.7																				
Other Support		16.2		0.9																		<u> </u>
Interim Contractor Support																						
Installation Cost	9	5.1																				<u> </u>
Total Procurement		42.8		0.9																		l

Notes

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
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CLASSIFICATION: UNCLASSIFIED

nibit P-3a																						
DELS OF SYSTEMS AFFECT	ED:	VH-60N						_	MOD	IFICATIO	N TITLE:	VH-60N I	Mid-Life U	pgrade								
STALLATION INFORMATION:																						
TALEST TOTAL OR OTHER COLOR.																						
THOD OF IMPLEMENTATION	: .	Installation of	Communic	cation Sys	tems Upgr	ade and M	id-Life Upg	rade kits v	will occur d	uring SPA	R (all turn	key in FY	1996 and p	orior fiscal	years.)							
MINISTRATIVE LEADTIME:	-			8	Months	<u> </u>			PRODU	CTION LI	EADTIME	<u>:</u>			16	Months	_					
NTRACT DATES: FY 2002:					-		FY 2003:					-		FY 2004:	:				_	FY 2005	:	
LIVERY DATE: FY 2002:							FY 2003:							FY 2004:						FY 2005	c	
•					-							-							_			
Cost:	D-1-	or Years	EV.	2002	EV.	2003	F./	2004	EV.	(\$ in 2005	Millions)	2006	F./	2007	FV.	2008	EV.	2009	т. О	mplete		TAL
COST:	Qty	r Years \$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$008	Qty	\$	Qty	mplete \$	Qty	S S
FY 2001 & PY () kits	9	5.1		Ť	۵.,	Ť	۵.,	Ť	۵.,	Ť	ربي	Ť	α.,	<u> </u>	α.,	Ψ	۵.,	<u> </u>	α.,	_	α.,	Ť
FY 2002 () kits		0.1																				
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
FY 2006 () kits																						
FY 2007 () kits																						
FY 2008 () kits																						
FY 2009 () kits																						
To Complete () kits																						
TOTAL	9	5.1																				
	9	5.1																				
FY 2001	FY	2002		I	FY	2003		1	FY:	2004		ı	FY	2005			FY	2006		1		
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
n 9																						
Out 7			2	l		1	1											1	1	1		
	l l																	1		1		
FY 2	2007`			FY:	2008			FY	2009		Т	ō			1							
1 2	3	4	1	2	3	4	1	2	3	4	1	plete	то	TAL	I							
							 								4							
n														9								

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	VH-60N Cockpit Upgrade (OSIP 09-02)			
MODELS OF SYSTEMS AFFECTED:	VH-60N		TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: In order to meet the requirement of providing safe and timely transportation for the President, Vice President, and other parties as directed by the Director of the White House Military Office (WHMO) in support of the alert and contingency mission requirement of the WHMO Operations plan, the VH-60N aircraft cockpit must be upgraded to provide enhanced communication and navigation capabilities while reducing pilot workload. The cockpit upgrade should be an all-glass instrumentation built around multi-function pilot workload. A moving map display complete with terrain database should be incorporated, while maintaining the current capabilities of TACAN, VOR, ILS, ADF, TCAS, CSFIR, FM Immunity, and Mode S IFF. The navigation system should include laser ring gyros with embedded GPS that has integrity monitoring/IFR certification. A color radar with stormscope should be incorporated. Communication capabilities must be consistent with WHCA (White House Communications Agency) planning and NSA requirements. Three UHF/VHF/FM radios shall be included. Four FM radios, SATCOM, HF with ALE currently on the VH-60N must be maintained. A coupled autopilot function shall be incorporated into the cockpit management system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Recurring Engineering (NRE) for the cockpit ugrade began in FY 2002 with a prototype kit scheduled for FY 2006. Installation of prototype will begin in FY2007. Development and Operational Testing is scheduled for FY 2007/8. Initial Operating Capability is scheduled for FY 2008 with Full Operating Capability scheduled for FY 2011.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY:	2007	FY 2	2008	FY:	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VH-60N Cockpit Upgrade Kit																						
Installation Kits N/R				2.5		0.8		10.0		9.7												
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support				0.5		0.5		0.5		0.4												
Interim Contractor Support																						
Installation Cost																						
Total Procurement				3.0	_	1.2		10.5		10.1												

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. 1 Install kit & associated cost will remain @ NAWCAD as a Avionics Testbed.
- 4. 1 Aircrew Procedures Trainer (APT) install @ Rotary Wing.

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CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																									
MODELS O	F SYSTEM	S AFFECT	ΓED:	VH-60N																					
INSTALLAT	ION INFOR	MATION:																							
METHOD O	F IMPLEME	ENTATION	۱:	Installatio	on of Cock	pit Upgrad	e during S	PAR.																	
ADMINISTR	ATIVE LEA	ADTIME:					Months	<u>s</u>			PRODU	CTION LI	EADTIME	<u>:</u>				Months	<u>.</u>						
CONTRACT	Γ DATES:	FY 2002:					_		FY 2003:					_		FY 2004:					_	FY 2005:			
DELIVERY	DATE:	FY 2002:							FY 2003:							FY 2004:						FY 2005:			
							_					(\$:	in Millions	-1							_				
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	(\$ 1 2005		2006	FY:	2007	FY 2	2008	FY	2009	To Co	omplete	TOT	ΓAL	1
	000.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
FY 2001	& PY () kit	ts																							1
FY 2002	2 () kits																								1
FY 2003																					1				1
FY 2004																					1				1
FY 2005	() Kits																				1				1
FY 2006	() kits																								
FY 2007	() kits																								1
FY 2008	() kits																				1				1
FY 2009																					1				1
	plete () kits	;																			1				1
TOTAL																									1
1. 1 insta	ll kit & asso						Testbed	i													•				•
	ew Procedu		(APT) ins	stall @Ro	otary Wing	g.																			
Installatio	n Schedule	,																							
	FY 2001		FY 2	002			FY	2003			FY	2004			FY '	2005			FY	2006		1			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1			
In	5						<u> </u>				<u> </u>								<u> </u>			1			
Out																						1			
				•	•						•	•	•			•	_		•	•		-			
		FY 20	007			FY	2008			FY:	2009			Го											
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	ТО	TAL]								
In														10	1	0]								
Out														10	1	0]								
Includes	1 trainer ins	tallation a	nd 1 testb	ed install	lation								=				_								

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	Communication Suite Upgrade (OSIP 14-02)			
MODELS OF SYSTEMS AFFECTED:	VH-60N/VH-3D		TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: JCS Directive MJCS-63-89 states that all access to UHF SATCOM will use demand assigned multiple access (DAMA). The White House Communication Agency (WHCA) has directed that all White House Military Organization (WHMO) elements be connected and have the ability to operate in the DAMA mode by the year 2005. WHCA has also directed that all WHMO elements have the ability to operate in the High Frequency/Automatic Link Establishment (HF/ALE) mode by the year 2007. Additionally, the WHMO directed the upgrade to the data transfer computer and printer on board the VH-60N which is required to transmit, receive, and print secure data files via the SATCOM and HF radios. Satisfaction of the DAMA SATCOM requirement will require the incorporation of 2 DAMA capable radios in each aircraft to satisfy the need for full duplex communication. OFP software will be modified by NAWC-AD to allow the new system to work in the aircraft. An install kit will be built to house the radio and equipment and then installed in the aircraft. Satisfaction of the Data Transfer Computer/Printer requirement will require the procurement of a compatible, TEMPEST certified data transfer computer and printer. OFP software will be modified by NAWC-AD to allow the new equipment to operate in the aircraft. This is to be an operational level install. To satisfy the HF/ALE requirement will require a software modification to the OFP to enable the current HF radio to utilize this function. OFP software will be modified by NAWC-AD.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This program was approved as an Abbreviated Acquisition Program in July 2001. DAMA SATCOM upgrade will be performed between FY-2002 through FY-2006. Installations are performed in conjunction with scheduled depot maintenance. VAL/VER will be performed on the delivery of the first production VH-3D and VH-60N. This is planned for FY-2004. HF/ALE modification will be performed between FY-2005 through FY-2007 with a Val/Ver in FY-2005. Performance testing and EMC/EMI testing will be performed by NAWC-AD. Val/Ver will be performed by HMX-1 to ensure interoperability with all WHMO elements.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VH-3D SATCOM			4	0.4	3	0.4	3	0.4	1	0.1												
VH-60 SATCOM			3	0.4	2	0.3	2	0.2	1	0.1												
VH-60N DTC/P							8	0.5														
VH-3D DIGITAL FM					3	1.1	3	1.1	3	1.1												
VH-60N DIGITAL FM					2	0.7	2	0.7	2	0.8												
Installation Kits N/R				10.5		1.6		0.3														
Installation Equipment			14	0.7	35	1.8	43	2.6	29	1.5												
Installation Equipment N/R						0.3																
Engineering Change Orders																						
Data						0.9		0.3														
Training Equipment					4	0.9	1	0.2														
Support Equipment																						<u> </u>
ILS						0.1				1.8												<u> </u>
Other Support				0.9		1.3		0.8		2.0												<u> </u>
Interim Contractor Support																						
Installation Cost					7	2.8	10	4.3	10	4.5												
Total Procurement				13.0		12.1	· ·	11.3		11.8												

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 4. FY02 includes \$10.1 install kits N/R DERF funding for FM Digital radios. FY03-07 includes DERF funds for VH-3D & VH-60N Digital FM Install Kits, Trainer Kits, and associated costs.

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CLASSIFICATION: UNCLASSIFIED

Cost:	xhibit P-3a																						
METHOD OF IMPLEMENTATION: Installation of Comm Suite Upgrade during SPAR. ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months CONTRACT DATES: FY 2002: Jan-02 FY 2003: Jan-03 FY 2004: Jan-04 FY 2005: DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: (\$ in Millions) Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL FY 2001 & PY () kits Qty \$ Qty	10DELS OF SYSTEMS AFFECTE	ED: _						VH-60N	VH-3D														
ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months CONTRACT DATES: FY 2002: Jan-02 FY 2003: Jan-03 FY 2004: Jan-04 FY 2005: DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL Otty S Qty	NSTALLATION INFORMATION:																						
ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months CONTRACT DATES: FY 2002: Jan-02 FY 2003: Jan-03 FY 2004: Jan-04 FY 2005: DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL Qty \$	METHOD OF IMPLEMENTATION:		Installation	n of Comm	n Suite Und	nrade duri	na SPAR																
CONTRACT DATES: FY 2002:		_	o.u.iu.io.i		· ouno op	grado dari	g 01 7																
DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: Sin Millions) Cost:	DMINISTRATIVE LEADTIME:	_				3 Months	<u>L</u>			PRODU	CTION LE	ADTIME	i:				9 Months	<u>s</u>					
Cost:	ONTRACT DATES: FY 2002:			Jan-02		-		FY 2003:			Jan-03		_		FY 2004:			Jan-04		_	FY 2005:	:	Jan-
Cost:	DELIVERY DATE: FY 2002:			Oct-02				FY 2003:			Oct-03				FY 2004:			Oct-04			FY 2005:		Oct-
Cost:						-					22.30		-							_		-	200
Qty \$ Qty \$			<u> </u>			_		T _		_				_		T _		_		Т_			
FY 2001 & PY () kits FY 2002 () kits FY 2003 () kits FY 2004 () kits FY 2005 () kits FY 2006 () kits FY 2006 () kits	Cost:																				1		
FY 2002 () kits	EV 2004 & DV / \ leito	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2003 () kits						7	20												1	+			
FY 2004 () kits 10 4.8 FY 2005 () kits FY 2006 () kits 11 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5						<u> </u>	2.0		18							1				1		1	
FY 2005 () kits FY 2006 () kits								10	4.0		4.8									1			
FY 2006 () kits																							
FY 2007 () KIIS	FY 2007 () kits																						
FY 2008 () kits	FY 2008 () kits																						
FY 2009 () kits	FY 2009 () kits																						
To Complete () kits	To Complete () kits																						
TOTAL 7 2.8 10 4.8 10 4.8	TOTAL					7	2.8	10	4.8	10	4.8												
									Ī				ı								1		
Installation Schedule								1	- 1			4	1			4	1			1 4	1		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006		2	3	4						2						_	1	2	3	4	1		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>2</td> <td>2</td> <td></td> <td>_</td> <td>-</td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td> </td> <td> </td> <td>-</td> <td>1</td> <td></td> <td></td>					1	2	2	2		_	-			2				 	 	-	1		
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FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 <td></td> <td>07</td> <td></td> <td></td> <td>FY '</td> <td>2008</td> <td></td> <td></td> <td>FY '</td> <td>2009</td> <td></td> <td>1</td> <td><u></u></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		07			FY '	2008			FY '	2009		1	<u></u>	1		1							
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 4 2 2 4 2 <td>EV 200</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td>l</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	EV 200							 			1			l									
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FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 2		4	1	2	3	4	1	2	3	4												

Exhibit P-40, BUDGET ITEM JUSTIFICAT	ON								DATE:			
											February 200	3
APPROPRIATION/BUDGET ACTIVITY	•						P-1 ITEM NOMEN	ICLATURE				
Aircraft Procurement, Navy/APN-5 Aircraft M	odifications								Executiv	e Helicopter Mo	difications	
Program Element for Code B Items:							Other Related	Program Eleme	ents			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	268.0	A	25.8	15.8	26.5	21.9	17.5	15.9	16.2	16.5	23.8	447.9

This line item funds modifications to the (11) VH-3D and (8) VH-60N Executive Helicopters. These aircraft are assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D Service Life Extension Program (SLEP) consists of airframe, mechanical, and electrical upgrades which will increase the service life from 7,500 to 14,000 hours and thereby extend the executive mission life from the year 1998 past the year 2010. The VH-60N mid-life upgrade will provide improved mission performance. The Communications/Navigation/Survivability modification to both the VH-3D and VH-60N consists of a communications system upgrade to provide communications commonality between Executive Helicopters, Air Force One, and N-Cap; a Miniaturized Airborne GPS Receiver (MAGR); and a tailored electronic warfare (EW) suite. The VH-60N Cockpit consists of an upgrade to an all-glass instrumentation, moving map display, color radar with stormscope, ARC-210 with SINCGARS/HAVEQUICK capability, coupled autopilot function, and cordless headsets. The overall goal of modifications budgeted in FY 2004 and FY 2005 is to continue procurement efforts in accordance with the planned procurement strategy implemented during FY 1993.

The specific modifications budgeted and programmed are:

(TOA, \$ in Millions)

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
25-90	VH-3D Safety, Reliability and Service Life	122.8	0.4									123.2
	Extension Program (SLEP)											
22-93	Executive Helicopter Survivability Program	102.4	18.6	2.5	4.7							128.2
23-93	VH-60N Mid-Life Upgrade	42.8	0.9									43.7
09-02	VH-60N Cockpit Upgrade		3.0	1.2	10.5	10.1	10.2	10.4	16.2	16.5	23.8	101.8
14-02	Communication Suite Upgrade		2.9	12.1	11.3	11.8	7.3	5.5				50.9
	DERF (non add)		10.1									
	Total	268.0	25.8	15.8	26.5	21.9	17.5	15.9	16.2	16.5	23.8	447.9

Note: Totals may not add due to rounding.

*FY02 DERF funding augments OSIP 14-02, Communication Suite Upgrade

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Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	VH-3D SAFETY, RELIABILITY AND SERVICE LIFE EXTENSION PROGRAM (SLEP) (OSIP	25-90)	-
MODELS OF SYSTEMS AFFECTED:	VH-3D	TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: The VH-3D is assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D was delivered in 1975. The original airframe life, based on the SH-3 and White House half life requirements, was 5000 hours. An analytic study using SH-3 and VH-3D usage data increased that life to 8500 hours. At the current usage (30-35 hrs/month), the VH-3D reached its Executive mission life in FY 1997-2000. With the cancellation or delay of the MV-22 there is no apparent replacement for the VH-3D. A Service Life Extension Program (SLEP) (for 11 aircraft) is necessary to increase VH-3D service life from 8,500 hours to 14,000 hours, extend Executive mission life to the year 2015, and qualify the VH-3D (11 aircraft) at a higher maximum gross weight (max. G. W.) using off the shelf components. Growth in the empty weight of the VH-3D, since initial procurement, has reduced the number of passengers and quantity of fuel carried on White House missions and decreased the safety margin. Increasing the amount of usable engine power will provide a greater margin of safety. Newer components will be more reliable. Mission communications will become more reliable with the addition of a Communication Systems Upgrade (CSU) as directed by the White House.

Modifications include:

Completed ECP's under this OSIP including strakes (part of ECP 5976), ALQ-144 (ECP 5966), IBIS and Overtorque Warning System (ECP 5962) and reliability kits to improve mission availability, reduce maintenance manhours, and cut life-cycle costs. Ongoing ECP's include:

- (1) SLEP nonrecurring design engineering to integrate airframe and component replacement due to fatigue or obsolescence was initiated in FY 1990 to support a FY 1993 prototype kit/installation and validation buy, with production kit procurement in FY 1995, FY 1996, FY 1997 and FY 1998. SLEP kits are identified by Phase I is the core kit and comprises all required component and structural changes to extend the VH-3D service life. Portions of the Phase I kit were installed on the VH-3D SLEP/CNSU Prototype. The remainder were installed on the VH-3D SLEP/CNSU prototype during an FY 2000 update. Phase II incorporates cockpit sliding windows and will be installed at the O-Level.
- (2) Communication System Upgrade (CSU) will ensure communications commonality between Air Force One, the National Emergency Airborne Command Post (NEACP), White House Communications Agency (WHCA), and Marine One. This commonality, as directed by the White House, will quarantee communication links under any requirement and will comply with the National Security Directive for Executive Fleet Airborne Architecture. Systems include: 14 station ICS, HF radio with ALE and ANDVT, a fourth Executive FM radio, a full duplex SATCOM (MUST Radio), and an upgraded systems computer. To guarantee avionics commonality between AF-1, NEACP, and Marine One, it is imperative all CSU avionics were procured in FY 1994. All proposed CSU avionics are NDI from various on going programs. Due to this program's small order quantities, future production or modification cannot be assured. All Executive FM radios were procured in FY 1992 to ensure commonality and facilitate economic ordering quantities. One prototype kit was procured in FY 1994 with the remaining production kits procurements in FY 1995 through FY 1998.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Nonrecurring engineering (NRE) for SLEP started in FY 1990. Naval Air Warfare Center, Aircraft Division (NAWCAD), Warminster began developing CSU avionics and software integration in FY 1991 utilizing the VH-60 avionics as a baseline and NVH-3A as an integration platform. NAWCAD will modify off the shelf components for incorporation into the CSU kits. Sikorsky Aircraft developed the interior modifications as part of the nonrecurring engineering of SLEP. Prototype SLEP installation began in Oct. 1994 and completed in July 1997. Development and Operational Testing was completed in November 1998. Initial Operating Capability was March 1999. Full Operating Capability was October 2002.

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	Prior	Years	FY:	2002	FY:	2003	FY:	2004	FY:	2005	FY:	2006	FY:	2007	FY:	2008	FY 2	2009	To Co	mplete	Tc	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$		\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																					1	
Installation Kits																					,	
Reliability Kit	11	0.8																				
ALQ-144 Kit	8	0.2																				
SLEP Kit	22	9.6																				
Comm System Upgrade Kit	12	10.9																				
IBIS Kit	11	0.3																				
Installation Kits N/R		37.6																				
Installation Equipment																						
IBIS	11	0.5																				
FM Executive Radio	17	0.8																				
Mil Aide/Fill Panels		0.6																				
APN-194		0.1																				
IRU's		0.1																				
Strake Support		*																				
RF Switches		0.2																				
Comm System Upgrade	12	6.0																				
OWS Upgrade		0.1																				
Installation Equipment N/R		7.5																				
Engineering Change Orders																						
Data		1.8																				
Training Equipment		0.1																				
Support Equipment		1.9																				
ILS		0.5																				
Other Support	_	26.4		0.4									ļ		ļ						<u> </u>	<u> </u>
Interim Contractor Support																					<u>'</u>	
Installation Cost	59	16.8																			<u> </u>	
Total Procurement		122.8		0.4																	,	

Notes

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a																								
MODELS OF	SYSTEM	S AFFECT	ED:	VH-3D							MOD	IFICATIO	N TITLE:	VH-3D S	afety, Relia	abilty, and	SLEP							
NSTALLATIO	ON INFOR	MATION:																						
METHOD OF	IMPLEME	ENTATION:	: .	Installatio	n of IBIS,	SLEP Phas	se I kits, Co	ommunicat	tions Syste	ms Upgrad	de, and Str	ake will be	at SPAR.	Installatio	n of ALQ-1	44 Phase L	ock Kit w	ill be by Dr	ive-In-Mod	d. (All turn	n-key in FY	1996 and	prior fisca	l years.)
DMINISTRA	ATIVE LEA	DTIME:	-			5	Months	<u>-</u>			PRODU	CTION LE	ADTIME	:			20	Months						
CONTRACT	DATES:	FY 2002:					_		FY 2003:					•	ı	FY 2004:					_ !	FY 2005:	:	
ELIVERY D	ATE:	FY 2002:					_	1	FY 2003:						ı	FY 2004:					_	FY 2005:	:	
												(9	in Millior	ns)										
	Cost:		Prior \	Years	FY	2002	FY	2003	FY 2	2004	FY 2	2005		2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	TC	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () kit	S	59	16.8																				
FY 2002					<u> </u>	<u> </u>	<u> </u>	<u> </u>											L					
FY 2003						<u> </u>	<u> </u>	<u> </u>	<u> </u>															
FY 2004								<u> </u>																
FY 2005					<u> </u>	<u> </u>	↓	ļ	<u> </u>										<u> </u>					
FY 2006					<u> </u>	<u> </u>	↓	<u> </u>	<u> </u>															-
FY 2007					<u> </u>	<u> </u>		<u> </u>											<u> </u>					
FY 2008					<u> </u>	<u> </u>	<u> </u>	<u> </u>											├					<u> </u>
FY 2009					<u> </u>	<u> </u>	<u> </u>	<u> </u>											├					<u> </u>
	lete () kits					<u> </u>	├	 	<u> </u>										—				ļ	ļ
TOTAL			59	16.8	Щ		<u> </u>												<u> </u>					
Note: Asteris				ograde																				
ľ	FY 2001		FY 20	002			FY	2003			FY 2	2004			FY 2	2005			FY:	2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
ln	12								7															
Out	11	1				Î																		
																						•		
ŀ		FY 20	07			FY:	2008			FY 2	2009		Т	ō										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
j				_		-	-	-	-		_	_	_	_	_									
In									1 3						1	2								

Installation	Schedule	- SLEF
--------------	----------	--------

	FY 2001		FY 2	002			FY 2	2003			FY 2	2004			FY 2	2005			FY 2	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	12																				
Out	11	1																			

		FY 20	007			FY 2	2008			FY 2	2009		To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														12
Out														12

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM (OSIP 22-93)		
MODELS OF SYSTEMS AFFECTED:	VH-3D/VH-60N	TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: The VH-3D and VH-60N Executive Helicopters provide worldwide emergency evacuation and executive transport missions for the President of the United States. Missions include operations in areas subject to terrorist infiltrations, light anti-aircraft weapons, small arms, infrared seeking missiles, laser weapons, and other external threats. The survivability improvements will provide mission aircraft with tailored Aircraft Survivability Equipment (ASE). International and federal laws governing commercial air traffic require collision avoidance systems for certain aircraft which carry passengers. FAA requirements call for installation of a collision avoidance warning system no later than 1996 for most commercial aircraft. The collision warning system will give pilots a real time indication of proximity threat traffic. The system will augment radar tracking and provide traffic advisories when operating in areas with no radar coverage.

Modification will include:

- (1) 19 Survivability change kits and GFE (11 VH-3D and 8 VH-60N) in FY 1993 through FY 1998. One prototype kit was procured in FY 1993 for the VH-3D and one in FY 1994 for the VH-60N. 10 production kits were procured for the VH-3D in FY 1995 through FY 1998, and 7 VH-60N production kits were procured in FY 1996 through FY 1998. The Survivability kit consists of the APR-39 Radar Detector, the AAR-47 Missile Detector, the AVR-2 & AVR-2(A) Laser Detectors (providing real time laser illumination detection). Survivability Kits will provide pilots real time threat and relative position indications. Initial Radar Detector installations will use "on-loan" APR-39A(V)1 systems. Survivability Kits will be installed on the NVH-3A Testbed prior to install on the VH-3D and VH-60N prototypes to reduce risk and decrease time required for testing on the prototypes. Installation of these systems are being performed as part of ECP 5976 (VH-60N).
- (2) Traffic Alert and Collison Avoidance System (TCAS) install kits and IFF (8 VH-60N), included as part of the MUG/CNSU kits in FY 1996 through FY 2002. VH-60N TCAS production kits were procured as part of the MUG/CNSU kits in FY 1998 through FY 1998 and was installed as part of ECP 3407. TCAS/IFF kits for the VH-3D were procured in FY 1998 through FY 2001 and installed under ECP 5981 in FY2000 through FY2004. Mode "S" update will follow as technology matures. ORD OR-315-05-92 and OR-316-05-92 apply.
 - (3) An interim Auto Ignition system was developed and installed on the VH-60N aircraft in FY 1994. Permanent systems will be installed coincident with the VH-60N survivability mod installations.
 - (4) Two Aircrew Procedures Trainers/Simulators (APT).
 - (5) In FY 01 an FM immunity capability was procured/installed on the VH-60N and VH-3D to prevent receiving erroneous signals and false position indications for the VOR/ILS system.
 - (6) The AN/APR-39 (V) 2 will replace the AN/APR-39A (V) 1 system on both the VH-3D and VH-60N.
 - (7) VH-60N Maintenance Trainer
 - (8) MAGR 2000 GPS Upgrade for VH-3D/VH-60N
 - (9) TACAN Navigation Upgrade for VH-3D/VH-60N

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Integration efforts to the airframes will be performed by either Sikorsky Aircraft or the individual kit manufacturer. Software integration, which started in FY 1993, is being developed by NAWC-AD. The first installation of TCAS/IFF was in May 1999 for the VH-60N and was in February 2001 for the VH-3D. TCAS installations will be complete in FY04. FY04 AN/APR-39A (V) 2 Radar Warning system, Tailored Emitter Identification Device files. Tailored Mission Data Files. Modified Blanking pulse. Production integration engineering support. Test integration engineering support. Modeling and Simulation. Effectiveness testing and Operational Validation/Verification.

P-1 SHOPPING LIST
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P-1 SHOPPING LIST
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CLASSIFICATION: UNCLASSIFIED

FI	NANCIAL	PLAN:	(TOA,	\$ in Mil	lions)

	Prior	Years	FY	2002	FY 2	2003	FY 2	2004	FY	2005	FY 2	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	T	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VH-3D Survivability Kit	12	11.9																				
VH-60N Survivability Kit	9	5.7																				
VH-3D TCAS Kit	11	1.6																				
VH-60N Auto Ignition Kit	8	1.1																				
Installation Kits N/R		20.4																				
Installation Equipment																						
ALQ-144	19	2.4																				
MUST Radio	3	0.3																				
ALE-47 MLVS		0.1																				
ALE-47	11	0.7																				
VH-3D TCAS	11	0.9																				
APX-100 Upgrade	1	0.1			18	0.4																
FM Immunity VH-3D	11	0.2																				
FM Immunity VH-60N	8	0.1																				
APR-39A(V)2																						
Installation Equipment N/R		*		7.7																		
Engineering Change Orders		0.1																				
Data		4.1		*				0.4														
Training Equipment		13.6		7.0			2	0.1														
Support Equipment		1.2						0.1														
ILS		1.0																				
Other Support		19.6		2.7		0.7		2.5														
Interim Contractor Support																						
Installation Cost	50	17.2	3	1.2	3	1.3	3	1.5														
Total Procurement		102.4		18.6		2.5		4.7														

Notes:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

^{3.} Installation Kits for the ALQ-144 (19) were procured in FY 1990 for the VH-3D under OSIP 25-90. Installation Kits for the VH-60N delivered with the production aircraft.

xhibit P-3a																						
MODELS OF SYSTEMS AFF	ECTED:	VH-3D/V	H-60N					-	MOD	IFICATIO	N TITLE:	EXECUT	IVE HELIC	OPTER S	SURVIVAE	BILITY PR	OGRAM					
NSTALLATION INFORMATIO	DN:																					
METHOD OF IMPLEMENTAT	ION:	ALQ-144 P	hase Lock	k kits will be	e installed a	ıs Drive-In	Mod. Surv	vivability k	its (AAR-4	7, APR-39,	AVR-2 and	I ALE-47)	will be insta	alled on VI	H-3D and V	H-60N dur	ing SPAR.					
DMINISTRATIVE LEADTIMI				e warning			ntly being				porated d EADTIME		AR. (All tu					ars.)				
ONTRACT DATES: FY 2	002:				_		FY 2003:						1	FY 2004:					_	FY 2005:		
ELIVERY DATE: FY 2	002:				_		FY 2003:					•	ı	FY 2004:					_	FY 2005:		
			· -								in Million											
Cost:		Years		2002		2003		2004		2005		2006 \$	FY 2	2007 \$		2008		2009 \$		mplete		TAL
FY 2001 & PY (59) kits	Qty 50	\$ 17.2	Qty	\$ 3 1.2	Qty	1.3	Qty	1.5	Qty	\$	Qty	•	Qty	\$	Qty	\$	Qty	•	Qty	\$	Qty	\$
FY 2001 & F1 (59) Kits	50	17.2	3	1.2	3	1.3	3	1.5														
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
FY 2006 () kits																						
FY 2007 () kits																						
FY 2008 () kits																						
FY 2009 () kits					1																	
To Complete () kits					1																	
TOTAL	50	17.2	3	1.2	2 3	1.3	3	1.5														
Installation Schedule - VH-				1	FY 2					2004			FY 2	2005			574	2000				
& Prior 1	2	3	4	1	2	3	4	_	2	3	4	1	2	3	4	1	2	2006	4			
		3	4	<u> </u>		<u> </u>	4	'		3	4			3	4	'		3	4			
In 12 Out 11 1					1	-	-	-		-		-	1		-	-		-	1			
Out 11 1		<u> </u>	l	<u> </u>	1	l	<u> </u>	<u> </u>	l]	<u> </u>]	<u> </u>	l					
Ī	Y 2007			FY:	2008			FY:	2009		Т	ō			1							
		4	1	2	3	4	1	2	3	4	1	plete	TO [*]	TAL								
1 2									·		. 55111	r . 010										
1 2													4	2								

Installatio	n Schedule	- VH-60N	Survivab	ility																	
	FY 2001		FY 2	2002			FY	2003			FY	2004			FY	2005			FY	2006	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	9																				
Out	7			1	1																
	•					-				-				-				-			
		FY 2	007			FY 2	2008			FY	2009		7	ō							
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL					
In																9	1				
Out																9					
-				•	-		•	•	-				-		•		-				

Exhibit P-3a	1																					
MODELS C	F SYSTEM	S AFFECT	TED:	VH-3D						_	MOD	OIFICATIO	N TITLE:	EXECUT	IVE HELI	COPTER	SURVIVAI	BILITY PR	OGRAM			
INSTALLAT	TION INFOR	RMATION:																				
METHOD C	OF IMPLEM	ENTATION	N:	Collision	avoidance	warning sys	stems will	be incorpo	orated durin	ng SPAR.												
ADMINISTE	RATIVE LEA	ADTIME:			2		Months	<u>s</u>			PRODU	CTION LI	EADTIME	:			16	Months	<u>-</u>			
CONTRAC	T DATES:	FY 2002	:				-		FY 2003:					<u>-</u>		FY 2004	:				_	FY 2005:
DELIVERY	DATE:	FY 2002	:				-		FY 2003:					_		FY 2004	:				_	FY 2005:
Installation	on Schedule	e - VH-3D	TCAS																			
	FY 2001		FY 2	2002			FY:	2003			FY	2004			FY	2005			FY	2006]
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	<u> </u> =
In .	2		1	1	1		1	1	1	.	1	1	1									_
Out	1		l	1	1	1 1	_ 1	1	Į	1	1 1	1			1	1	1 1	I				
		FY 2	2007			FY 2	2008			FY	2009		1	ō			1					
I	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL						
<u>In</u>					<u> </u>				<u> </u>		-					11	-					
Out		1	I												l '	11						

Exhibit P-3a	Indiv	vidual Modification		
MODIFICATION TITLE:	VH-60N Mid-Life Upgrade (OSIP 23-93)			
MODELS OF SYSTEMS AFFECTED:	VH-60N	ī	TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: The VH-60N is assigned to Marine Helicopter Squadron One (HMX-1) to support the President of the United States. This planned upgrade will correct identified deficiencies in aircraft performance and mission capabilities. Upgrades are required in system areas pertaining to environmental issues, communication and navigation. White House operational requirements for the VH-60N designate specific communication and mission improvement requirements.

Modifications are performed under ECP 3407 and will include:

- (1) Incorporation of a Communications System Upgrade. One prototype Communications System Upgrade kit was procured in FY 1994. Seven production communications system upgrade kits were procured in FY 1996 through FY 1998. The upgrade will provide communication system commonality between the VH-60N and VH-3D, Air Force One, National Emergency Airborne Command Post (NEACAP), and the White House Communications Agency (WHCA). Specifically the CSU will include the following:
 - (a) Addition of a fourth VHF/FM radio. This enhances system capability to one full duplex and two half duplex channels capable of secure and clear voice operation.
 - (b) HF Radio system capable of half duplex secure and clear voice operation. Must have embedded Automatic Link Establishment (ALE) capability and operationally securable with Advance Narrow Band Digital Voice Terminal (ANDVT).
 - (c) Full duplex SATCOM capability (25 Khz channel spacing (MUST Radio)).
- (2) Incorporation of MUG kit. Eight production MUG kits were procured in FY 1996 through FY 1998. The MUG kit will consist of:
- (a) Aircraft modifications to improve aircraft performance and reliability. Airframe modifications are as follows:
 - (1) An improved rotor brake system.
- (2) New APU components, including 35KVA generators, to improve reliability.
- (3) Improved tail landing gear to absorb greater stress and impact landings due to stress from increase operating weight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering (NRE) for the Mid-Life Upgrade began in 1993. Communications System Upgrade software integration, which started in FY 1992, is being developed by NAWC AD Warminster using the NVH-3A Testbed as an integration platform. The Naval AIr Warfar Center Aircraft Division is modifying off-the-shelf components for incorporation into CSU kits. Sikorsky Aircraft is developing the interior and structural modifications as part of the NRE. The prototype aircraft for the Communications System Upgrade Kit was inducted in June 1997. Development and Operational Lesting of the CSU software was completed in November 1999. First production MUG VH-60N aircraft was inducted in June 1998. Initial Operational Capability occurred in September 2002.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY:	2002	FY:	2003	FY	2004	FY 2	2005	FY	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Comm System Upgrade/MUG Kit	9	5.9																				
Installation Kits N/R		8.7																				
Installation Equipment																						
Comm System Upgrade	8	3.5																				
FM Radios	10	0.5																				
35KVA Generators	8	0.2																				<u> </u>
Installation Equipment N/R																						<u> </u>
Engineering Change Orders																						
Data		0.9																				
Training Equipment		0.2																				
Support Equipment		1.0																				
ILS		0.7																				
Other Support		16.2		0.9																		<u> </u>
Interim Contractor Support																						
Installation Cost	9	5.1																				<u> </u>
Total Procurement		42.8		0.9																		l

Notes

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

P-1 SHOPPING LIST
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CLASSIFICATION: UNCLASSIFIED

nibit P-3a																						
DELS OF SYSTEMS AFFECT	ED:	VH-60N						_	MOD	IFICATIO	N TITLE:	VH-60N I	Mid-Life U	pgrade								
STALLATION INFORMATION:																						
TALEST TOTAL OR OTHER COLOR.																						
THOD OF IMPLEMENTATION	: .	Installation of	Communic	cation Sys	tems Upgr	ade and M	id-Life Upg	rade kits v	will occur d	uring SPA	R (all turn	key in FY	1996 and p	orior fiscal	years.)							
MINISTRATIVE LEADTIME:	-			8	Months	<u> </u>			PRODU	CTION LI	EADTIME	<u>:</u>			16	Months	_					
NTRACT DATES: FY 2002:					-		FY 2003:					-		FY 2004:	:				_	FY 2005	:	
LIVERY DATE: FY 2002:							FY 2003:							FY 2004:						FY 2005	c	
•					-							-							_			
Cost:	D-1-	or Years	EV.	2002	EV.	2003	F./	2004	EV.	(\$ in 2005	Millions)	2006	F./	2007	FV.	2008	EV.	2009	т. О	mplete		TAL
COST:	Qty	r Years \$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$008	Qty	\$	Qty	mplete \$	Qty	S S
FY 2001 & PY () kits	9	5.1		Ť	۵.,	Ť	۵.,	Ť	۵.,	Ť	ربي	Ť	α.,	<u> </u>	α.,	Ψ	۵.,	<u> </u>	α.,	_	α.,	Ť
FY 2002 () kits		0.1																				
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
FY 2006 () kits																						
FY 2007 () kits																						
FY 2008 () kits																						
FY 2009 () kits																						
To Complete () kits																						
TOTAL	9	5.1																				
	9	5.1																				
FY 2001	FY	2002		I	FY	2003		1	FY:	2004		ı	FY	2005			FY	2006		1		
& Prior 1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
n 9																						
Out 7			2	l		1	1											1	1	1		
	l l																	1		1		
FY 2	2007`			FY:	2008			FY	2009		Т	ō			1							
1 2	3	4	1	2	3	4	1	2	3	4	1	plete	то	TAL	I							
							 								4							
n														9								

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	VH-60N Cockpit Upgrade (OSIP 09-02)			
MODELS OF SYSTEMS AFFECTED:	VH-60N		TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: In order to meet the requirement of providing safe and timely transportation for the President, Vice President, and other parties as directed by the Director of the White House Military Office (WHMO) in support of the alert and contingency mission requirement of the WHMO Operations plan, the VH-60N aircraft cockpit must be upgraded to provide enhanced communication and navigation capabilities while reducing pilot workload. The cockpit upgrade should be an all-glass instrumentation built around multi-function pilot workload. A moving map display complete with terrain database should be incorporated, while maintaining the current capabilities of TACAN, VOR, ILS, ADF, TCAS, CSFIR, FM Immunity, and Mode S IFF. The navigation system should include laser ring gyros with embedded GPS that has integrity monitoring/IFR certification. A color radar with stormscope should be incorporated. Communication capabilities must be consistent with WHCA (White House Communications Agency) planning and NSA requirements. Three UHF/VHF/FM radios shall be included. Four FM radios, SATCOM, HF with ALE currently on the VH-60N must be maintained. A coupled autopilot function shall be incorporated into the cockpit management system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Recurring Engineering (NRE) for the cockpit ugrade began in FY 2002 with a prototype kit scheduled for FY 2006. Installation of prototype will begin in FY2007. Development and Operational Testing is scheduled for FY 2007/8. Initial Operating Capability is scheduled for FY 2008 with Full Operating Capability scheduled for FY 2011.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY:	2007	FY 2	2008	FY:	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VH-60N Cockpit Upgrade Kit																						
Installation Kits N/R				2.5		0.8		10.0		9.7												
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support				0.5		0.5		0.5		0.4												
Interim Contractor Support																						
Installation Cost																						
Total Procurement				3.0	_	1.2		10.5		10.1												

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 3. 1 Install kit & associated cost will remain @ NAWCAD as a Avionics Testbed.
- 4. 1 Aircrew Procedures Trainer (APT) install @ Rotary Wing.

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CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a																									-
MODELS O	F SYSTEM	S AFFECT	ΓED:	VH-60N																					
INSTALLAT	ION INFOR	MATION:																							
METHOD O	F IMPLEME	ENTATION	۱:	Installatio	on of Cock	pit Upgrad	e during S	PAR.																	
ADMINISTR	RATIVE LEA	DTIME:					Months	<u>s</u>			PRODU	CTION LI	EADTIME	: :				Months	<u>.</u>						
CONTRACT	Γ DATES:	FY 2002:							FY 2003:							FY 2004:						FY 2005:			
							='																		
DELIVERY	DATE:	FY 2002:					_		FY 2003:					-		FY 2004:					_	FY 2005:			
												(\$ i	n Millions	s)											
	Cost:		Prior	Years	FY	2002	FY	2003	FY:	2004	FY:	2005	FY	2006	FY 2	2007	FY 2	2008	FY	2009	To Co	omplete	TO	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	l & PY () kit	ts																							
FY 2002	2 () kits																								
FY 2003	3 () kits																								
FY 2004	1 () kits																								
FY 2005	5 () Kits																								
FY 2006	S() kits																								
FY 2007																									
FY 2008																									1
FY 2009																									1
	plete () kits	,																							1
TOTAL	p ()							İ						İ							1				1
	ll kit & asso	ciated cos	t will rom:	ain @NA≀	WCAD a	. Ανίορίος	Toethod	I	·					1					1	<u> </u>		1			1
							resided	1																	
	ew Procedu		(APT) In:	stall @RC	otary win	g.																			
installatio	n Schedule																								
	FY 2001		FY 2	2002		1	FY	2003			FY '	2004			FY 2	2005			FY	2006		1			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1			
In																						1			
Out																						1			
		-				-											_				•	-			
		FY 2	007			FY	2008			FY:	2009		-	Го											
	1	2	3	4	1	2	3	4	1	2	3	4	Con	plete	TO	TAL									
In														10	1	0									
Out														10		0]								
Includes	1 trainer ins	tallation a	nd 1 testb	ed instal	lation												_								

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	Communication Suite Upgrade (OSIP 14-02)			
MODELS OF SYSTEMS AFFECTED:	VH-60N/VH-3D		TYPE MODIFICATION:	SAFETY

DESCRIPTION/JUSTIFICATION: JCS Directive MJCS-63-89 states that all access to UHF SATCOM will use demand assigned multiple access (DAMA). The White House Communication Agency (WHCA) has directed that all White House Military Organization (WHMO) elements be connected and have the ability to operate in the DAMA mode by the year 2005. WHCA has also directed that all WHMO elements have the ability to operate in the High Frequency/Automatic Link Establishment (HF/ALE) mode by the year 2007. Additionally, the WHMO directed the upgrade to the data transfer computer and printer on board the VH-60N which is required to transmit, receive, and print secure data files via the SATCOM and HF radios. Satisfaction of the DAMA SATCOM requirement will require the incorporation of 2 DAMA capable radios in each aircraft to satisfy the need for full duplex communication. OFP software will be modified by NAWC-AD to allow the new system to work in the aircraft. An install kit will be built to house the radio and equipment and then installed in the aircraft. Satisfaction of the Data Transfer Computer/Printer requirement will require the procurement of a compatible, TEMPEST certified data transfer computer and printer. OFP software will be modified by NAWC-AD to allow the new equipment to operate in the aircraft. This is to be an operational level install. To satisfy the HF/ALE requirement will require a software modification to the OFP to enable the current HF radio to utilize this function. OFP software will be modified by NAWC-AD.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This program was approved as an Abbreviated Acquisition Program in July 2001. DAMA SATCOM upgrade will be performed between FY-2002 through FY-2006. Installations are performed in conjunction with scheduled depot maintenance. VAL/VER will be performed on the delivery of the first production VH-3D and VH-60N. This is planned for FY-2004. HF/ALE modification will be performed between FY-2005 through FY-2007 with a Val/Ver in FY-2005. Performance testing and EMC/EMI testing will be performed by NAWC-AD. Val/Ver will be performed by HMX-1 to ensure interoperability with all WHMO elements.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY	2007	FY	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VH-3D SATCOM			4	0.4	3	0.4	3	0.4	1	0.1												
VH-60 SATCOM			3	0.4	2	0.3	2	0.2	1	0.1												
VH-60N DTC/P							8	0.5														
VH-3D DIGITAL FM					3	1.1	3	1.1	3	1.1												
VH-60N DIGITAL FM					2	0.7	2	0.7	2	0.8												
Installation Kits N/R				10.5		1.6		0.3														
Installation Equipment			14	0.7	35	1.8	43	2.6	29	1.5												
Installation Equipment N/R						0.3																
Engineering Change Orders																						
Data						0.9		0.3														
Training Equipment					4	0.9	1	0.2														
Support Equipment																						<u> </u>
ILS						0.1				1.8												<u> </u>
Other Support				0.9		1.3		0.8		2.0												<u> </u>
Interim Contractor Support																						
Installation Cost					7	2.8	10	4.3	10	4.5												
Total Procurement				13.0		12.1	· ·	11.3		11.8												

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K
- 4. FY02 includes \$10.1 install kits N/R DERF funding for FM Digital radios. FY03-07 includes DERF funds for VH-3D & VH-60N Digital FM Install Kits, Trainer Kits, and associated costs.

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Cost:	xhibit P-3a																						
METHOD OF IMPLEMENTATION: Installation of Comm Suite Upgrade during SPAR. ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months CONTRACT DATES: FY 2002: Jan-02 FY 2003: Jan-03 FY 2004: Jan-04 FY 2005: DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: (\$ in Millions) Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL FY 2001 & PY () kits Qty \$ Qty	10DELS OF SYSTEMS AFFECTE	ED: _						VH-60N	VH-3D														
ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months CONTRACT DATES: FY 2002: Jan-02 FY 2003: Jan-03 FY 2004: Jan-04 FY 2005: DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL Otty S Qty	NSTALLATION INFORMATION:																						
ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months CONTRACT DATES: FY 2002: Jan-02 FY 2003: Jan-03 FY 2004: Jan-04 FY 2005: DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL Qty \$	METHOD OF IMPLEMENTATION:		Installation	n of Comm	n Suite Und	nrade duri	na SPAR																
CONTRACT DATES: FY 2002:		_	o.u.iu.io.i		· ouno op	grado dari	g 01 7																
DELIVERY DATE: FY 2002: Oct-02 FY 2003: Oct-03 FY 2004: Oct-04 FY 2005: Sin Millions) Cost:	DMINISTRATIVE LEADTIME:	_				3 Months	<u>L</u>			PRODU	CTION LE	ADTIME	i:				9 Months	<u>s</u>					
Cost:	ONTRACT DATES: FY 2002:			Jan-02		-		FY 2003:			Jan-03		_		FY 2004:			Jan-04		_	FY 2005:	:	Jan-
Cost:	DELIVERY DATE: FY 2002:			Oct-02				FY 2003:			Oct-03				FY 2004:			Oct-04			FY 2005:		Oct-
Cost:						-					22.30		-							_		-	200
Qty \$ Qty \$			<u> </u>			_		T _		_				_		T _		_		Т_			
FY 2001 & PY () kits FY 2002 () kits FY 2003 () kits FY 2004 () kits FY 2005 () kits FY 2006 () kits FY 2006 () kits	Cost:																				1		
FY 2002 () kits	EV 2004 & DV / \ leito	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2003 () kits						7	20												1	+			
FY 2004 () kits 10 4.8 FY 2005 () kits FY 2006 () kits 11 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5						<u> </u>	2.0		18							1				1		1	
FY 2005 () kits FY 2006 () kits								10	4.0		4.8									1			
FY 2006 () kits																							
FY 2007 () KIIS	FY 2007 () kits																						
FY 2008 () kits	FY 2008 () kits																						
FY 2009 () kits	FY 2009 () kits																						
To Complete () kits	To Complete () kits																						
TOTAL 7 2.8 10 4.8 10 4.8	TOTAL					7	2.8	10	4.8	10	4.8												
									Ī				ı								1		
Installation Schedule					_			1	- 1			4	1			4	1			1 4	1		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006		2	3	4					_	2						_	1	2	3	4	1		
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>2</td> <td>2</td> <td></td> <td>_</td> <td>-</td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td> </td> <td> </td> <td>-</td> <td>1</td> <td></td> <td></td>					1	2	2	2		_	-			2				 	 	-	1		
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FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 4 2 2 4 2 <td>EV 200</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td>l</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	EV 200							 			1			l									
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 4 2 2 4 2 2 4 4 4 3 4 4 4 <td></td> <td></td> <td>4</td> <td>1</td> <td>2</td> <td>2</td> <td>1 1</td> <td>1 1</td> <td>2</td> <td></td> <td>1 1</td> <td>Com</td> <td>nlata</td> <td>TO</td> <td>ΤΔΙ</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			4	1	2	2	1 1	1 1	2		1 1	Com	nlata	TO	ΤΔΙ								
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 2		4	1	2	3	4	1	2	3	4												

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CLASSIFICATION: UNCLASSIFIED

	BUDGET	ITEM J	JSTIFICATI	ON SHEET				DATE:				
			P-40							February 2003	3	
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NO	MENCLATURE	Ē				
Aircraft Procure	ment, Navy/A	PN-5 Aircra	aft Modifications	1				Spe	ecial Project Airo	craft		
Program Element for Code B Items:						Other Related	Program Elen	nents				
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QUANTITY												
COST												
(In Millions)	93.7		12.5	10.9	49.6	21.0	31.8	24.3	24.8	25.2		293.8

The Special Projects program modifies and/or replaces obsolete intelligence collection equipment as required in (4) P-3 aircraft. Procurements vary in each fiscal year and include common Navy systems for increased capability, reduced operator workload and common logistics. Active PAA inventory is 4 and there are currently 4 aircraft in the Special Mission inventory. They have an average service life of 29.5 years and the first aircraft reached end of service in 2001, the second in 2002. Two replacement aircraft delivered in FY 2001 and prior, one replacement aircraft delivered Aug 02, and the second replacement aircraft scheduled for delivery Feb 03. The specific modifications budgeted and programmed are:

OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
18-97 19-97	P-3 Special Project Aircraft P-3 Intelligence Sensors/Systems	69.9 23.8	4.5 8.0	10.9	49.6	21.0	31.8	24.3	24.8	25.2		74.4 219.4
TOTAL		93.7	12.5	10.9	49.6	21.0	31.8	24.3	24.8	25.2		293.8

Note: Totals may not add due to rounding. The FY03-07 DERF funding augments OSIP 19-97, Improved Comm & Collection Capabilities

CLASSIFICATION:

DD Form 2454, JUN 86

Exhibit P-3a		INDIVIDUAL MODIFICATION
MODIFICATION TITLE P-3 Special Pro	ject Aircraft (OSIP 18-97)	
MODELS OF SYSTEM AFFECTED:	P-3B/C	TYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:

- Replacement of two (2) P-3 Special Project aircraft that reach 100% FLE (fatigue life expenditure) in FY01.
 This effort includes upgrading two (2) existing aircraft to the same configuration and operational capability as the replacement P-3 Special Project aircraft.
 The increased capability is classified.
- 2. Procurement of common Navy systems for increased capability, reduced operator workload and common logistics.
- 3. Update of radio frequency distribution hardware for selected sensors.
- 4. Conversion of interior and exterior of aircraft for future operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY 2	2007	FY	2008	FY	2009	To C	omplete	TC	DTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
P-3 System A (Mission Unique)	4	.5																				
P-3 System B (Mission Unique)																						
LESPA	4	.9																				
Replacement Aircraft	4	12.9																				
Installation Kits N/R		7.2																				
Installation Equipment		8.8		2.4																		
Installation Equipment N/R		5.2																				
Engineering Change Orders																					<u> </u>	
Data				.3																		
Training Equipment		.2																				
Support Equipment																						
ILS		.9																				
Other Support		10.7		1.8																		
Interim Contractor Support																						
Installation Cost	4	22.7																				
TOTAL PROCUREMENT	12	69.9		4.5																		

Notes:

- 1. Totals do not add due to rounding
- * Installation of FY01-02 Mission Unique Installation Equipment and LESPA to be accomplished at field (O) level.
- 2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a																									
MODELS OF	SYSTEM	S AFFE	CTED:	P-3B/C	;					N	IODIFIC	CATION	TITLE:		ecial Pro			SIP 18-97)						
INSTALLATI	ON INFOR	NOITAM	۷:											Nepiac	ement A	iciait / L	DIOCK IVI	ou							
METHOD OF	F IMPLEM	ENTATIO	ON:	Contra	ctor Dri	ive In.																			
ADMINISTR	ATIVE LEA	ADTIME:			6	i	Months	-			PROD	UCTION	l LEAD	TIME:		18		Months	-						
CONTRACT	DATES:		F	Y 2002:		_ F	Y 2003:		_ F	Y 2004:		F)	/ 2005:		<u>.</u>										
DELIVERY [DATE:		F	Y 2002:		_ F	Y 2003:		_ F	Y 2004:		F)	/ 2005:												
			I 5.	.,	5)/		I 57						I 5/		5/6		I 5.		-				Ι.	0741	I
	TALLATION INFORMATION: THOD OF IMPLEMENTATION: MINISTRATIVE LEADTIME: NTRACT DATES: LIVERY DATE: Cost: Pr Qt FY 2001 & PY (4) kits FY 2002 () kits FY 2003 () kits FY 2004 () kits FY 2005 () kits FY 2006 () kits FY 2006 () kits FY 2009 () kits				2002	Qty	2003	PY Qty	2004	Qty	2005 \$	Qty	2006	FY 2 Qty	\$	Qty	2008	Qty	\$	Qty	omplete \$	Qty	OTAL \$		
EV 2001	8. DV (1) ki	te	Qty 4	22.7		φ	Qiy	φ	Qty	φ	Qty	Φ	Qiy	Ф	Qiy	Ф	Qiy	Ф	Qly	Φ	Qty	φ	Qty) D	
		15	4	22.1																					
FY 2009	() kits																								
To Comp	lete () kits																								
TOTAL			4	22.7																					
Installation	Schedule																								
	EV 2001		FY 2	2002			EV.	2003			EV '	2004			EV 2	005			FY 2	2006		1			
		1	2	3	4	1	2	3	4	1	2	3	4	1	FY 2	3	4	1	2	3	4	ł			
In			1			<u> </u>	1				<u> </u>											1			
Out	1				1		1																		
P.			•	•		-		•			•	•	·				1								
	<u> </u>		1	Ι.	<u> </u>	1	2008	1 .	<u>.</u>		2009	1 .	1	0											
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO										
In O 1			1		-				1						4										
Out		<u> </u>				1	1	<u> </u>							4	1	J								

Exhibit P-3a		INDIVIDUAL MODIFICATION	
MODIFICATION TITLE:	P-3 Intelligence Sensors and Systems (OSIP 19-97)		
MODELS OF SYSTEM AFFE	ECTED: P-3B/C	TYPE MODIFICATION: Operational Improvement	

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:

- 1. Installation and support of special mission equipment contained in OSIP 18-97.
- 2. Procurement of special mission equipment as directed by the Chief of Naval Operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, \$ in Millions):

	Prior	Years	FY:	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY 2	2007	FΥ	2008	FY	2009	To Co	mplete	Т	OTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	4	.7																				
Installation Kits N/R																						
Installation Equipment																						
Mission Unique Equipment		20.7		8.0		4.6		8.2		2.6												
Improved Comm & Collection Capabil	ities					3.0		13.9		9.5												
Installation Equipment N/R		.2				1.9		21.0		6.0												
Engineering Change Orders																						
Data								1.0		.4												
Training Equipment																						
Support Equipment																						
ILS						.1		.7		.3												
Other Support		1.8				1.3		4.8		2.2												
Interim Contractor Support																						<u> </u>
Installation Cost		.4																				
TOTAL PROCUREMENT	4	23.8		8.0		10.9		49.6		21.0												

Notes:

- * Installation of FY98 Mission Unique Installation Kits to be accomplished under OSIP 18-97.
- 1. Totals do not add due to rounding * Installation of FY97-99 Mission Unique Installation Equipment to be accomplished at field (O) level.
- 2. Asterisk indicates amount less than 51K * Installation of FY03-07 Mission Unique Installation Equipment and Improved Comm & Collection Capabilities to be accomplished at field (O) level.
- 3. This OSIP also includes FY02-FY07 Defense Emergency Response Fund (DERF) funding for Improved Comm & Collection Capabilities in support of Operation Enduring Freedom.

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE:				
										Febru	ary 2003	
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOME	NCLATURE					
	rcraft Procurement, Navy/APN-5 Aircraft Modifications ogram Element for Code B Items:								T-45 Series	s Modification		
Program Element for Code B Items:						Other Related Pr	ogram Elements					
	Prior	ID									To	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		Α										
COST (In Millions)	67.7	А	5.5	27.6	22.3	23.0	19.1	11.3	11.5	11.4	175.1	374.5

This line item funds modifications to T-45A aircraft. The T-45A Goshawk is a tandem-seat, carrier capable derivative of the existing British Aerospace Hawk aircraft powered by a single Rolls Royce Adour engine. It serves as the aircraft component of the T45TS integrated jet pilot training system which replaces the three decade old TA-4 and T-2 technology. The overall goal of the modifications budgeted in FY 2004 is to correct discrepancies and deficiencies discovered after delivery of the aircraft and to commence major upgrades to the aircraft cockpit, navigation system, and aircrew ejection seats.

FY03 funded simulator is an analog conversion and will support production aircraft to be delivered to Kingsville in FY04.

The designed service life of the aircraft is 14,400 hours with the average remaining service life of inventory aircraft estimated at 11,692 hours.

The specific modifications budgeted and programmed are:

(TOA, \$ in Thousands)

												To
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
08-95	T45TS Correction of Deficiencies	55.7	4.4	8.1	7.8	8.4	10.9	3.9	5.5	5.5	5.9	116.0
16-96	T45TS Digital Cockpit	3.8		7.3							166.4	177.5
04-99	T45TS NACES P3I	8.2	1.1	0.3	0.1							9.7
11-02	Improvement Directional Control			7.4	6.2	6.6	1.2	0.6				22.0
03-03	Engine Surge			4.6	4.5	3.5	3.7	3.3	4.0	4.0	2.0	29.6
10-04	T-45TS GPS				1.1	1.2	1.5	1.4	1.5	1.6	0.8	9.1
17-04	Avionics Obsolescence				2.7	3.2	1.8	2.1	0.5	0.3		10.6
	Total	67.7	5.5	27.6	22.3	23.0	19.1	11.3	11.5	11.4	175.1	374.5
Note: Tot	als may not add due to rounding.											
	cates amount less than 51K.											

P-1 SHOPPING LIST- NO 48 PAGE NO 1 of 16 CLASSIFICATION: UNCLASSIFIED DD Form 2454, JUN 86

Classification: UNCLASSIFIED

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	T45TS Correction to Deficiencies (OSIP 8-95)			
MODELS OF SYSTEMS AFFECTED:	T-45 Training System (T45TS)		TYPE MODIFICATION:	Safety, Reliability, Increased Service Life, Imroved Mission Capabilities

DESCRIPTION/JUSTIFICATION:

Ejection Seat Handle MB-9155

Modification will standarize ejection seat firing handle to enhance aircrew safety. Incoporation will lower the seat bucket firing handle assembly to eliminate interference with flight controls. Installation of this ECP is in response to a F-18 mishap report that documented a safety deficiency and proposed recommendations relating to incidents of inadvertent ejection.

Uncommanded Gear Extension: MDA-T45TS-TBDs

Modification will increase travel of the landing gear control interconnect cable, increase cable friction, and change the gear selector valve actuation signal to only when the handle is in the full up or full down position. Installation of this ECP is in response to a T45TS Engineering Investigation that documented a deficiency and proposed recommendations relating to incidents of uncommanded landing gear extensions.

Ground Training Systems: MDA-T45TS-TBDs

Updates to the T-45 aircraft simulator to match evolving aircraft flight characteristics and software and academics enhancements to improve training capabilities. The following Ground Trainer Systems ECP's are included in the controls: Flap Actuation Simulators, Touch and Go Engine Surges, current and future Simulator Upgrades.

Structural ECPs

Modifications will incorporate changes to improve structural details to increase aircraft service life beyond 14,400 flight hours, per initial design specifications, to a projected 21,000 flight hours. During FSD testing of the T45 aircraft it was determined that incorporation of redesigned components applicable to the critical load paths will significantly increase the service life of the aircraft. This structural portion of this OSIP effects several structural components including, but not limited to: Wing Dolly, SS 02 Monitor Bracket, Horizontal Stabilators, Frame 24 Crossbeams Lugs, Wing Leading Edge Redesign, Frame 29 Lower Flange, Uplock Beam Forward Attach, Slat Track Rib 5 Downstop Bolt, Frame 28/32 Boundary/Vert Fin, Inlet Close-Out Fluel, Airframe Engine Mount, Frame 21 Structure, MLG Bay Tilted & Fasteners, Longitudial Systems Viscous, Frame 20 Structures, Frame 12 Vertical Splice, NLF Trunnion Beam, Slat Actuator Fitting Angle, Structure Life Improvement, Speed Brake Upgrade, Engine Mount Link Option, Stabilizer Back-Up Structures, Fuselage/Frame 10 Door, and Fin Bracket Lever Box Assembly.

Airframe ECP's

Modifications to the airframe other than structural defficiencies are also required to ensure safety of flight, aero-performance and maintainability to enable satisfactory PTR levels. This Airframe OSIP affects several airframe components and their sub-assemblies including, but not limited to: front, center and aft fuselage components, landing gear, tail cone, wing, horizontal and vertical control surfaces, flaps, canpoy/windscreen, hydraulic system, oxygen system, electrical system, fuel system, instrumentation systems, environmental controls, communications, navigation and emergency systems.

Avionics

Modifications to the Avionics will be required to update the Display unit, heads Up Display, and Global Positioning System and Inertial Navigation Assembly to enhance effectiveness of pilot training and avoid obsolescence. The Air Data Recorder improvements will increase available memory and allow monitoring of additional aircraft characteristics which will allow improved component tracking and increase service life. The following ECP's are part of the Avionics package of the aircraft and include: Air Data Recorder Upgrade (current and future). Gina Updates, Mission Display processor upgrades. Almanac Loading System upgrades.

Engines

Modifications will increase engine service life and correct safety related issues. These modifications include High Pressure Fuel Pump, Front Combustion Liner, High Pressure Compressor Ladder Assembly, Low Pressure Nozzle Guide Vanes, High pressure Nozzle Guide Vanes and a modification to address engine surge/compressor stall. Modification will increase the overhaul interval from 1000 starts to 2000 starts. This also addresses a T45TS Engineering Investigation that documented a deficiency with the combustor liner and oil galley. The Engine ECP's include the Dual Boost Pump, Low Pressure Nozzle Guide Vanes, High Pressure Nozzle Guide Vanes, HP Fuel Pump, Front Combustion Liners, Gas Turbine Starters, Engine Rising Idle, Engine Surges, and the Engine Ladder Assembly.

Classification: UNCLASSIFIED

T45TS Correction to Deficiencies (OSIP 08-95)

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2003		FY 2004		FY 2	2005	FY:	2006	FY	2007	FY 2	2008	FY 2009		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Ejection Seat Handle MB-9155	112	.3																				
Uncommanded Gear Extension	35	.7																				
Ground Training Systems TBD's	40	2.3			9	.6																
Structural ECP's	757	17.4	41	.3	143	2.0	26	1.7	24	.7												
Avionics	272	1.7			25	.4	5	.2	19	.6												
Engines	487	4.2			10	.2	16	.4	17	.4												
Installation Kits N/R		1.2				.2		.1		.1												
Installation Equipment																						
Ejection Seat Handle MB-9155		.2																				
Uncommanded Gear Extension		.1																				
Ground Training Systems TBD's		.6				.1																
Structural ECP's		.4		*		*		*		*												
Airframe ECP's						.4		.5		.5												
Avionics		1.1				.1		.1		.1												
Engines		2.0				*		*		*												
Installation Equipment N/R		2.0				.3		*		*												<u> </u>
Engineering Change Orders																						<u> </u>
Data		.8		*		.1		*		*												<u> </u>
Training Equipment		3.0		*		.5		*		*												<u> </u>
Support Equipment		.8		*		.1		*		*												
ILS																						
Other Support		1.0		*		.2		*		*												
Installation Cost	1,653	16.0	91	3.9	127	2.8	107	4.6	60	5.9												
TOTAL PROCUREMENT	1,703	55.7	41	4.4	187	8.1	47	7.8	60	8.4		*	-	*		*	l	*		1		1

Notes

- 1. Totals may not add due to rounding.
- 2. *indicates amounts less than 51K

Exhibit P-3a MODELS OF INSTALLATI				T45TS							MODIFI	CATION	TITLE:	<u>T45TS</u>	Correction	n to Defic	iencies (0	OSIP 08-9	95)					
METHOD OF	F IMPLEM	ENTATION	۸:	"I" and "D"	Level Insta	allation: C	ontractor F	ield Modif	cation Tea	m-Separat	e Contract	1												
ADMINISTR/	ATIVE LEA	ADTIME:			6		Months				PRODU	CTION L	EADTIMI	≣:		12		Months						
CONTRACT	DATES:	FY 2002:		N/	Α		_	FY 2003:		N	/A				FY 2004:		N	/A			FY 2005:			N/A
DELIVERY C															FY 2004:									
		,					-																	
		-			_		_		_				n Millions				_		_		_		1 _	
	Cost:			Years		2002		2003	FY 2			2005		2006	+	2007		2008		2009	_	omplete e	_	TAL
FV 2001	& PY () ki	te	Qty 1,653	\$ 16.0	Qty 50	0.9	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2002		ıs	1,000	16.0	41																			
FY 2003					7.	0.0	127	2.8	60	2.4					1								1	
FY 2004									47	2.2														
FY 2005	() kits										60	5.9												
FY 2006	() kits																							
FY 2007																								
FY 2008															1								1	
FY 2009	() kits lete () kits														1								1	
TOTAL	nete () Kits)	1,653	16.0	91	3.9	127	2.8	107	4.6	60	5.9									l			
Installation	Schedule	,	FY 2	2002			EV.	2003			EV.	2004			FV	2005			FY 2	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	1653	23	23	23	22	31	32	32	32	26	27	27	27	15	15	15	15							
Out	1653	23	23	23	22	31	32	32	32	26	27	27	27	15	15	15	15							
																						•		
[FY 20				FY	2008			FY 2	2009		T	ō										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL								
In													752		+	'90								
Out				Ì			1	i				1	752	ĺ	27	90								

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	T45TS Digital Cockpit (OSIP 16-96)		
MODELS OF SYSTEMS AFFECTED:	T-45 TRAINING SYSTEM (T45TS)	TYPE MODIFICATION:	PS SAFETY

DESCRIPTION/JUSTIFICATION: The T45TS Digital Cockpit will add two multi-function displays (MFDs) per cockpit, associated cockpit controls, and a 1553 digital bus, integrating them with the existing head-Up display (HUD), the airborne data recorder (ADR), and a separately procured Global Positioning System/Inertial Navigation System (GINA). FY03 funded simulator is an analog conversion and will support production aircraft to be delivered to Kingsville in FY04.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Approval for 3 simulators and 24 aircraft digital cockpits received in 1st quarter FY2002. Approval for FY04 and FY05 Avionics Obsolescence Effort received in 3rd quarter FY02.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY 2	2003	FY	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	2	1.0																				
Installation Kits NR																						
Installation Equipment	2	1.6																				
Installation Equipment NR						0.2																
Engineering Change Orders						0.1																
Data		0.8				0.3																
Training Equipment					1	6.4																
Support Equipment						0.3																
ILS																						
Other Support		0.2																				
Interim Contractor Support																						
Installation Cost	2	0.2																				
Total Procurement	2	3.8			1	7.3																

Notes:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a																								
MODELS OF	SYSTEM	S AFFEC	TED:	T45TS						_	MODI	FICATIO	N TITLE:	T45TS	Digital Co	ckpit (OS	SIP 16-96)						
NOTALLATI	ON INFOR	MATION								-														
NSTALLATI	ON INFOR	INATION:																						
METHOD OI	F IMPLEME	OITATIO	N:	Contracto	or field mod	d team																		
ADMINISTR	ATIVE LEA	DTIME:					Months	<u>.</u>			PRODU	CTION L	EADTIMI	E:				Months	_					
CONTRACT	DATES:	FY 2002:					_		FY 2003:					_	I	FY 2004:					_	FY 2005:	: <u></u>	
DELIVERY [DATE:	FY 2002:					_		FY 2003:					_	!	FY 2004:					_	FY 2005	5	
												(\$	in Millior	ns)										
	Cost:		Prior '	Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY:	2007	FY	2008	FY	2009	To Co	mplete	ТО	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () kit	ts	2	0.2																	ļ			
FY 2002																					1			
FY 2003																					<u> </u>		1	
FY 2004	. ,						1		1												+			
FY 2005									-												 		!	
FY 2006 FY 2007																					+			
FY 2008	. ,																				1			
FY 2009	. ,								t												1			
	olete () kits																							
TOTAL	()		2	0.2																	1			
Notes: 1. Quantity to the state of the stat	n Schedule																							
ĺ	FY 2001		FY 2	002			FY	2003			FY:	2004			FY:	2005			FY	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	2]		
Out	2																					J		
																						_		
		FY 20	007			FY	2008			FY:	2009		7	Го										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	nplete	TO	TAL								
In					I									81		33								
Out														,		,0								

exhibit P-3a	Individual Modification
MODIFICATION TITLE:	T-45A NACES P3I (Navy Aircrew Common Ejection Seat Pre- Planned Product Improvement) (OSIP 4-99)

MODELS OF SYSTEMS AFFECTED: DESCRIPTION/JUSTIFICATION:

An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting crewmembers into the ground or water at low altitude and adverse attitudes. Because of their lighter throw weight, women are particularly susceptible to this and other ejection risks. A total of 137 aircraft (2 seats per A/C) and 6 trainers will be retrofitted. The NACES P3I program is divided into three phases of development and upon completion of each phase, existing aircraft seats will be modified with NACES retrofit kits.

TYPE MODIFICATION: PS SAFETY

Phase I - Current technology improvements to increase cockpit accommodation and reduce injury risk for all aircrew.

Phase II - Propulsion stability control to reduce the risk of major injury to less than 5% up to 600 knots.

Phase III - Stability control and surface avoidance capability for low altitudes, adverse attitudes, and out of control ejections.

Procurement of Phase I kits have been priced and are represented by this OSIP. Procurement costs for Phase II and III have not been determined.

T-45A NACES GFE EJECTION SEATS

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Contract awarded third quarter FY 1997 for development and testing. ECP approval 19 May 1999. Contract awarded August 1999.

FINANCIAL PLAN: (TOA, \$ in Millions)

,	Prior `	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY :	2006	FY :	2007	FY 2	2008	FY :	2009	To Co	mplete	Τn	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits	222	6.4	36	0.9																		
Installation Kits N/R		0.7																				
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.1																				
Training Equipment	6	0.2																				
Support Equipment		*																				
ILS																						
Other Support																						
Interim Contractor Support																						
Installation Cost	56	0.9	66	0.2	74	0.3	68.0	0.1														
TOTAL PROCUREMENT	228	8.2	36	1.1		0.3		0.1														

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

xhibit P-3a																								
IODELS OF	SYSTEM	S AFFECT	TED:	T-45A N	ACES G	FF F.IFC	CTION SE	·ΔTS			MODI	FICATIO	N TITI F	T-454 N	ACES P3I	(OSIP 4-9	aa)							
ODLLO OI	OTOTEM	07111201		1 40/414	<u> </u>		J.1.0.11 0.2				WOD.	110/1110		1 40/(14/	1020101	(0011 4 0	30)							
ISTALLATI	ON INFOR	MATION:																						
IETHOD OF	- IMPLEME	OITATION	N:	Contracto	r Installati	ions																		
DMINISTRA	ΔΤΙ\/ΕΙΕΔ	DTIME:			6		Months				PRODU	CTION L	FADTIM	= -		5		Months						
								_											_					
ONTRACT	DATES:	FY 2002:					_		FY 2003:					-	I	FY 2004:					_	FY 2005:		
ELIVERY D	DATE:	FY 2002:							FY 2003:							Y 2004:						FY 2005:		
							_		•												_			
	Cost:		Prior	Years	FY	2002	FY	2003	FY 2	2004	FY	2005	n Millions	2006	FY:	2007	FY	2008	FY	2009	To Co	omplete	TO	TAL
	0031.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY () kit	s	56	0.9	66	0.2	74	0.3	32	0.1														
FY 2002									36	0.1														
FY 2003																								
FY 2004						1																		
FY 2005	. ,																							
FY 2006																								
FY 2007	. ,																							
FY 2008																								
FY 2009							1														1			
	lete () kits						<u> </u>																	
TOTAL			 	0.9	66	0.2	74	0.3	68	0.1														
*Totals ma			riding																					
	FY 2001		FY 2	002			FY	2003				2004			FY 2	2005			FY	2006]		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	-		
In	56	17	17	16	16	18	18	19	19	17	17	17	17									_		
Out	56	17	17	16	16	18	18	19	19	17	17	17	17											
		FY 20	007			FV	2008			FV '	2009		-	-o			1							
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO	TAL								
	•					+ -	+ -		'				5511				1							
In	j														21	64								

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	T45TS IMPROVED DIRECTIONAL CONTROL (OSIP 11-02)		
MODELS OF SYSTEMS AFFECTED:	T-45 TRAINING SYSTEM (T45TS)	TYPE MODIFICATION: Safety	

DESCRIPTION/JUSTIFICATION:

Loss of Directional Control during the high speed ground rollout has resulted in six Class A T-45 mishaps. The proposed modification will significantly improve the Ground Handling characteristics by improvements such as: Providing yaw rate feedback to the nosewheel steering system and the (SASS) Stability Augmented Steering System. This improvement will make external forces less influential on yaw rates, and provide for lower susceptibility to pilot induced oscillations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Non-Recurring Engineering Efforts associated with this modification will be conducted during FY02. Kit deliveries will commence in FY03 with installations beginning in FY04.

FINANCIAL PLAN: (TOA, \$ in Millions)

10 11 00 12 1 D 11 1 (1 0 7 1, \$\psi\$ 11		Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY	2007	FY:	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
PROCUREMENT																						
Installation Kits					53	5.1	53	5.3	53	5.1												
Installation Kits N/R						1.0																
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data						0.3		0.1		0.1												
Training Equipment						0.6		0.2		0.2												
Support Equipment						0.2		0.1		0.1												
ILS						0.2		0.3		0.3												
Other Support																						
Interim Contractor Support																						
Installation Cost							13	0.2	53	0.8												
Total Procurement		,			53	7.4	53	6.2	53	6.6												,

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

chibit P-3a																									
ODELS OF	SYSTEM	IS AFFEC	TED:	T-45 TR	AINING	SYSTEM	/I (T45TS)	,			MODII	FICATIO	N TITLE:	T45TS I	MPROVE	D DIREC	CTIONAL	. CONTR	OL (OSII	P 11-02)					
										•									,	,					
ISTALLATI	ON INFOR	RMATION:																							
ETHOD O	F IMPLEM	ENTATIO	N:	TBD																					
DMINISTR	ATIVE LEA	ADTIME:			4		Months	<u>:</u>			PRODU	CTION LI	EADTIM	Ξ:		18		Months	<u>.</u>						
ONTRACT	DATES:	FY 2002:					=		FY 2003:		Jar	า-03		<u>-</u>	ı	Y 2004:		Jai	า-04		_	FY 2005:		Ja	an-05
ELIVERY [DATE:	FY 2002:					_		FY 2003:		Jul	I-04		_	F	Y 2004:		Ju	I-05		_	FY 2005:		Jı	ul-06_
												(\$ ii	n Millions	s)											
	Cost:		Prior	Years	FY	2002	FY	2003	FY:	2004	FY 2	2005	FY	2006	FY 2	2007	FY:	2008	FY	2009	To Co	omplete	TO	TAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001	& PY () ki	ts]
FY 2002							<u> </u>																		_
FY 2003							<u> </u>	<u> </u>	13	0.2	40														
FY 2004	() kits						<u> </u>	<u> </u>			13	0.8													
FY 2005							<u> </u>	<u> </u>																	
FY 2006	() kits							<u> </u>																1	
FY 2007																								1	
FY 2008	() kits																							1	
FY 2009	() kits																							<u> </u>	
To Comp	olete () kits	3																						<u> </u>	
TOTAL									13	0.2	53	0.8													
	n Schedule	:																				1			
	FY 2001 & Prior	1	FY 2	3	4	1	2	2003	4	1	2	2004	4	1	2	2005	4	1	2	2006	4	1			
In	CK FIIUI	1		3	4	 '	+-	-	4	'		3						<u> </u>		3	+	┪			
In Out					-	ł	+	 	-				13	13	13	14	13		-		-	-			
Out			I		1	ı		Ь	1		l		13	13	13	14	13		l		1	J			
		FY 20	007		1	ΓV	2008		1	EV.	2000		-	-o	ı										
	1	2	3	4	1	2	2008	4	1	2	2009	4			то:	ΓAL									
	-		3	4	<u> </u>		 3	4	<u>'</u>		3	4		plete											
In Out							+	├──	1					93		59									
			l	1	I	1	1	1	1	l	l	1		93	1 15	59									

Exhibit P-3a	Individual Modification

MODIFICATION TITLE: T45TS ENGINE SURGE MITIGATION (OSIP 03-03)

MODELS OF SYSTEMS AFFECTED: T-45 TRAINING SYSTEM (T45TS) TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Engine Surge: T-45 engine surge is a critical safety concern for a single engine aircraft with over 195 surge events documented. Kits include modifications to engine inlet and fuel control system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Funding was provided to correct T-45 F405 engine surge. Non recurring Engineering efforts in FY03. Kit deliveries and installs will start in FY05.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	mplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							24	2.5	24	2.5												
Installation Kits N/R						4.5		2.0														
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data						*																
Training Equipment																						
Support Equipment																						
ILS						*																
Other Support																						
Interim Contractor Support																						
Installation Cost									12	1.0												
Total Procurement						4.6	24	4.5	24	3.5	0	0.0	0	0.0	0	0.0	0	0.0				

Notes:

2. Asterisk indicates amount less than \$50K

^{1.} Totals may not add due to rounding

MODELS OF SYSTEMS AFFECTED: T.45 TRAINING SYSTEM (T4STS) MODIFICATION TITLE: T4STS ENGINE SURGE MITIGATION (OSIP 03-03)																										
NATALLATION INFORMATION: METHOD OF IMPLEMENTATION: TED ADMINISTRATIVE LEADTIME: 7	Exhibit P-3a																									
METHOD OF IMPLEMENTATION: Months	MODELS OF	SYSTEM	S AFFEC	TED:	T-45 TR	AINING	SYSTEM	I (T45TS)			_	MODI	FICATIO	N TITLE:	T45TS E	ENGINE	SURGE N	MITIGATI	ON (OSI	P 03-03)						
ADMINISTRATIVE LEADTIME: 7 Months PRODUCTION LEADTIME: 12 Months CONTRACT DATES: FY 2002: FY 2003: FY 2003: FY 2004: Apr-06 FY 2006: Apr-06 DELIVERY DATE: FY 2002: FY 2003: FY 2003 FY 2004 FY 2006 FY 2006 FY 2009 To Complete TOTAL For Years	INSTALLATI	ON INFOR	RMATION:																							
FY 2003	METHOD O	F IMPLEM	ENTATIO	N:	TBD																					
FY 2002 FY 2003 FY 2004 FY 2006 FY 2006 FY 2006 Apr-06	ADMINISTR	ATIVE LEA	ADTIME:			7		Months	-			PRODU	CTION L	EADTIME	E:		12		Months	<u>-</u>						
Cost:	CONTRACT	DATES:	FY 2002:					_		FY 2003:					_	1	FY 2004:		Ар	r-04		_	FY 2005:		Ар	r-05
Cost:	DELIVERY [DATE:	FY 2002:					_		FY 2003:					_	I	FY 2004:		Ар	r-05		_ !	FY 2005:		Ap	r-06
Cost:													(\$ i	n Millions	;)											
FY 2001 & PY () kits		Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY				FY:	2007	FY:	2008	FY	2009	To Co	mplete	TOT	AL	
FY 2002 () kits					1		1	+		1					1								_			
FY 2003 () kits FY 2004 () kits FY 2006 () kits FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1	FY 2001	& PY () ki	ts																							
FY 2004 () kits	FY 2002	() kits																								
FY 2005 () kits	FY 2003	() kits																								
FY 2007 () kits FY 2008 () kits FY 2009 () kits FY 2009 () kits TO Complete () kits TOTAL Installation Schedule FY 2001 FY 2002 FY 2003 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 FY 2006 FY 2007 FY 2008 FY 2009 TO TOTAL In	FY 2004	() kits										12	1.0													
FY 2007 () kits	FY 2005	() kits																								
FY 2009 () kits FY 2009 () kits To Complete () kits TOTAL Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3	FY 2006	() kits																								
FY 2009 () kits	FY 2007	() kits																								
To Complete () kits																										
TOTAL 12 1.0 12 1.0 12 1.0 13 1.0 14 1.0 15																										
FY 2001		olete () kits	3																							
FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 1 4 1 1 2 1 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TOTAL											12	1.0													
& Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 1 2 3 4 1 2 3 4 Complete TOTAL	Installation	n Schedule																								
In																										
Out FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In <td< td=""><td></td><td>& Prior</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td>2</td><td>3</td><td>4</td><td>1</td><td></td><td></td><td></td></td<>		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1			
FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 135 147								<u> </u>														1				
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 135 147	Out																6	6					J			
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 135 147	ı					1										1		1								
In 135 147							1	1	1																	
		1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	TAL	l								
Out 135 147																										
	Out													1:	35	1-	47									

Exhibit P-3a	Ir	ndividual Modification	
MODIFICATION TITLE T45TS GLOBAL POSITIONIN	IG SYSTE T45TS GPS (OSIP10-04)		
MODELS OF SYSTEMS AFFECTED:	ANALOG COCKPIT	TYPE MODIFICATION:	PS SAFETY
DESCRIPTION/JUSTIFICATION: Cor currently 73 aircraft that will be retrofi	• '	navigating via GPS by the end of year 2005. A retrofit progra	am will incorporate GPS in the existing Analog aircraft. There are
DEVELOPMENT STATUS/MAJOR DEVEL	ODMENT MILESTONES: Wit delivering will commone in EVO	6 with installation in EVOS	

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Kit deliveries will commence in FY06 with installation in FY06

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							12	0.9	12	1.0												
Installation Kits NR																						
Installation Equipment																						
Installation Equipment NR																						
Engineering Change Orders																						
Data								0.1		0.1												
Training Equipment																						
Support Equipment																						
ILS								0.1		0.1												
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement							12	1.1	12	1.2												

Notes:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-3a																								
MODELS OF	SYSTEM	S AFFEC	CTED:	ANALO	G COCK	PIT				_	MODI	FICATIO	N TITLE:	T45TS	S GPS (OS	SIP10-04)								
NSTALLATI	ON INFOR	RMATION	l:																					
				0																				
METHOD OF	- IIVIPLEIVII	ENTATIC	JN:	Contrac	tor field n	nod team	1																	
ADMINISTRA	ATIVE LEA	ADTIME:				4	Months	<u>i</u>			PRODU	CTION L	EADTIM	E:		:	21	Months	_					
CONTRACT	DATES:		FY 2002:					_	FY 2003:					_	FY 2004	:		Jan-04		_	FY 2005	:		Jan-05
DELIVERY D	DATE:		FY 2002:					=	FY 2003:					_	FY 2004	:		Oct-05		=	FY 2005	:		Oct-06
												(\$	in Millior	ns)										
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FΥ	2009	To Co	omplete	TO	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
	& PY () ki	ts																						
FY 2002	.,		-		1		-									-								
FY 2003			1		1				1						-		1				-		1	
FY 2004			-		1		+				.				-						-		1	
FY 2005			1		1		+		1		.				-		1		.		-			
FY 2006 FY 2007			+		1		+																	
FY 2008	.,		1		1		1				-				-				-		-		1	
FY 2009			1																					
To Comp		<u> </u>																						
TOTAL	noto () title	<u>'</u>																						
Notes:			1	ı	1	ı	1	1	1					1	- 1	1	1	1			- 1	1		
Quantity t Installation																						_		
	FY 2001		FY 2	2002			FY	2003			FY:	2004			FY	2005			FY	2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In																						1		
Out																						J		
																	-							
		FY 2					2008	,			2009		1	Го										
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	TC	TAL	1							
					1								7	73		73								
In Out														73		73	-1							

Exhibit P-3a	Individu	al Modification	
MODIFICATION TITLE:	COCKPIT OBSOLESCENCE OSIP (17-04)		
MODELS OF SYSTEMS AFFECTED:	T-45 TRAINING SYSTEM (T45TS)	TYPE MODIFICATION: PS SAFETY	
DESCRIPTION/JUSTIFICATION: The	T-45 aircraft is facing critical obsolescence/performance issues	s. Components of various avionics boxes will not be supportable as a result of Diminishing Manufacturing Source issu	ues that

DESCRIPTION/JUSTIFICATION: The T-45 aircraft is facing critical obsolescence/performance issues. Components of various avionics boxes will not be supportable as a result of Diminishing Manufacturing Source issues that may result in part obsolescence or supplier mortality.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY:	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY 2	2008	FY	2009	To Co	mplete	То	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits							2	0.7	12	1.2												
Installation Kits NR								0.9		1.6												
Installation Equipment							2	0.2	12	0.2												
Installation Equipment NR																						
Engineering Change Orders																						
Data								0.4		0.2												
Training Equipment																						
Support Equipment								0.5														
ILS								*		*												
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement							2	2.7	12	3.2												

Notes:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a																									
ODELS OF SYSTI	EMS AFI	ECTE	D:	T45TS						-	MODI	FICATIO	N TITLE:	Cockpit	Obsolese	ence (OS	IP 17-04))							
NSTALLATION INF	ORMAT	ION:																							
IETHOD OF IMPLE	EMENTA	TION:		Contracto	r field mod	l team																			
DMINISTRATIVE L	LEADTIN	1E:	-		4		Months	_			PRODU	CTION L	EADTIM	E:		24		Months	<u>.</u>						
ONTRACT DATES	S: FY 2	002:					_		FY 2003:					_	ı	FY 2004:		De	ec-03		<u> </u>	FY 2005	:	De	c-04
ELIVERY DATE:	FY 2	002:							FY 2003:							FY 2004:		D	ec-05			FY 2005	i	De	c-06
_											1	,	in Millior		1		1				_				1
Cost:	:		Prior `			2002		2003		2004		2005		2006		2007		2008		2009		omplete	_	TAL	
EV 0004 0 EV (V 1.21-		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & PY () KITS	-					1		1												+		1		
FY 2002 () kits FY 2003 () kits		-				-	1	-	1			-							1		+				
FY 2004 () kits																									
FY 2005 () kits																									
FY 2006 () kits																									
FY 2007 () kits																									
FY 2008 () kits																									
FY 2009 () kits																									
To Complete ()	kits																								
TOTAL																									
Notes: 1. Quantity totals included in the state of the s		8																							
FY 200)1		FY 20	002			FY	2003			FY:	2004			FY 2	2005			FY	2006]			
& Prio	or 1		2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
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<u> </u>	_	Y 200					2008		l .		2009		1	Ō		.									
. 1	2	<u> </u>	3	4	1	2	3	4	1	2	3	4		plete		TAL	1								
In Out	-					1		1	1	1	1	1		¥1		1	ł								
COUT	1				1	1	1	1	1	1	1	1		11	. /	1									

UNCLASSIFIED CLASSIFICATION:

Exhibit P-40, BUDGET IT	EM JUSTIFICA	ATION							DATE:			
											Februa	ary 2003
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOM	IENCLATURE				
Aircraft Procurement, Navy/APN-5 Airc	raft Modificati	ons							Po	ower Plant Cha	inges	
Program Element for Code B Items:							Other Relat	ed Program	Elements			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										0
COST (In Millions)	278.1	A	12.9	13.4	21.6	19.7	18.3	17.9	18.7	18.3	10.5	429.4

This line item funds modifications to all in-service aircraft engines. Power Plant Changes are required throughout the service life of each aircraft to correct flight deficiencies and improve operational readiness while reducing engine operating costs. This program finances the procurement and installation of retrofit kits for all Navy and Marine Corp aircraft engines and related propulsion hardware such as propellers, starters and transmission. The overall goal of the modifications budgeted in FY 2004 is to continue modification efforts previously initiated on the engines for the F-14, AV-8B, H-53, S-3, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, F/A-18E/F, H-60, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, E/A6-B, A-6, H-2, AH-1W, T-38, F-5, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, A-6, H-2, AH-1W, T-38, E/A6-B, AH-1W, AH 46, H-3, C-2, E-2, A-4, H-53, MH-60, C-130, F/A-18C/D, T-2, P-3, VH60, UH1N, and T-45 aircraft.

The following depicts the current funding levels budgeted and programed for power plant changes:

(TOA, \$ in Millions)

											To	
OSIP N	o. Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
N/A	Power Plant Changes	278.1	12.9	13.4	21.6	19.7	18.3	17.9	18.7	18.3	10.5	429.4
	Total	278.1	12.9	13.4	21.6	19.7	18.3	17.9	18.7	18.3	10.5	429.4

Note: .459 DERF funds received n FY 02 Note: Totals may not add due to rounding.

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	Power Plant Changes (OSIP: N/A)			
MODELS OF SYSTEM AFFECTED:	All Active In-Service Navy and Marine Corps Aircraft		TYPE MODIFICATION:	Approx. 80% Safety, 20% Reliability

DESCRIPTION/JUSTIFICATION:

This program corrects aircraft flight safety deficiencies, improves operational fleet readiness and reduces engine cost of ownership by incorporating approved power plant changes. Power plant changes are required throughout the aircraft service life as the engine ages and operationally revealed deficiencies are discovered, researched, and solutions engineered. The Component Improvement Program (CIP) which is funded in RDT&E,N develops and demonstrates engineering solutions to these deficiencies and through the Engineering Change Proposal (ECP) process, initiates power plant changes program procures the necessary power plant change retrofit kit, its installation, and technical data. This program provides retrofit kits for all Navy and Marine aircraft engines and propulsion related hardware such as propellers, starters, generators, and transmissions. Reliability Improvements are designed to increase Mean Time Between Failure and Mean Time Between Engine Removal by 30% on average and are expected to generate savings/cost avoidance in excess of \$50M annually.

F110 Engine Program F-14 B/D

ECP T130 - Master Chip Detector Relocation moves the MCD to an area which is easily accessible through the daily inspection doors. The redesigned MCD has an improved capture efficiency, and is less prone to leakage.

ECP T144 - LPT Stage 1 Shroud Life Improvement to provide a shroud configuration that will consistently achieve a 4000 TAC inspection interval. The assembly will eliminate ingestion of flow path air and add a disassembly feature to the shrouds.

ECP T139 - Fuel Boost Pump Durability Improvement introduces a new Fuel Boost Pump with an increased orifice diameter. This change will prevent the oil supply source from being lost due to contamination in the oil system.

EMSP Improvements

F402 Engine A/V-8B:

ECP 3709C2 - IGVC Redesigned Bushings

ECP 3763 FMU Mod - Safety modification package to the Fuel Metering Unit which will supply a high-pressure fuel supply to the hydro-mechanical backup unit.

ECP 3784 Engine Wiring Harness- Encapsulation of main engine harness to prevent foreign material penetration (sand, dust, moisture) into the harness and resultant loss of signal quality

ECP 3782 ARMCO Liner/LPC Rear Lip- Fan case liner moves forward and requires a more robust attachment scheme. The LPC fan case rear lip cracks and can fall into the gas path. The redesign fixes the design deficiency.

ECP 3683 ECS &EMS P3 Pipe- Provides revisions to the environmental control system and engine monitoring system P3 signal pipe and associated clippings to accommodate earlier redesign of the P3 transducer mount.

ECP 3722 Bleed Pipe Extension- Increases sleeve length between stage 3 bleed pipe and heat exchanger to accommodate installation difficulties.

ECP 3729 Revised Attachment JPT- Provides revisions to JPT harness with revised attachment nuts to alleviate clearance problems.

ECP 3733 Curvic Coupling Corrosion - Introduces corrosion protection to the curvic coupling to eliminate corrosion attack and resultant reduction in component life.

ECP 3739 NGV Locating Ring - Introduces an improved outer high pressure stage 1 turbine nozzle guide vane locating ring to alleviate assembly problems.

ECP 3744 #2 BRG Seal Housing - Introduces an elongated bore shape to the #2 bearing to correct a design deficiency.

ECP 3748 #1 BRG Nut Channel - Revised material and plating the number 1 bearing to alleviate design deficiency

ECP 3771 HP Rotor Nut Revision - Revised high pressure rotor center front nut and cupwasher to improve structural weakness.

ECP 3787 DECU Hybrid Circuits - Revised T1 thermocouple hybrid circuits to the DECU for improved data accuracy.

ECP 3794 FMU Shielded Bearings- Revised fuel metering unit shielded bearings to the stepper motor assembly to alleviate design deficiency.

ECP 3797 FMU Bonded Shells- Revised bonded electrical connector shells to the fuel metering unit to improve durability.

ECP 3798 PLAU Bonded Shells - Revised bonded electrical connector shells to the power lever angle unit to improve durability

ECP 3800 P3 Transducer New Mount - New vibration isolation mount for the P3 transducer to prevent premature failures of the transducer.

ECP 3806 Hot Nozzle Cracking - Redesign of the hot nozzles to minimize or prevent the current problem of cracking and part attrition

EVICS

ECP TBD Revised Water Injection Pipe Runs

ECP TBD MOD Bottom Heat Shield

ECP TBD FMU HP Pump PRV

ECP TBD LPC Stage 1 Damping Foil

ECP TBD Mod to Accept EVICS

F404 Engine F/A 18

ECP E78 Main Fuel Control Selector Valve

ECP A27 VEN Position Transmitter Improvement

ECP C67 MFC Manifold Redesign

ECP E70 T1 Caution Capacitor Improvement

ECP E91 Improved MFC Ratio Boost Pston

ECP F15 Front Frame Transducer Bracket

ECP TBD MFM Kits

ECP TBD Mod Turbine Kits

J52Engine EA 6/B, A-6, A-4:

ECP 95XA013 Redesigned Pressure Ratio and Compressor Slator Controls reduce the susceptbility that can cause friction between the shank and the reset diaphragm.

ECP CP93XA069 Thermal Barrier Coated (TBC) 1st Stage Turbine Slator Vane Assembly will increase the durability of the vanes. This change is also required for a 1500 hr engine build.

ECP TBD 4 1/2 Bearing Redesign

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P-1 SHOPPING LIST ITEM NO.49 PAGE NO. 2 OF 11



Exhibit P-3a	INDIVIDUAL M	ODIFICATION	
MODIFICATION TITLE:	Power Plant Changes (OSIP: N/A)		
MODELS OF SYSTEM AFFECTED:	All Active In-Service Navy and Marine Corps Aircraft	TYPE MODIFICATION: Approx. 80% Sa	afety, 20% Reliability
T58 Engine H-3, H-46			
ECP TBD Stage 3 Nozzle Antirotation			
ECP TBD Overspeed Switch			
ECP TBD High Temp O-rings			
ECP TBD Flow Divider Imp			
ECP 58C-24 Small Features Imp			
ECP TBD Stage 1 Nozzle Imp			
ECP TBD #1 Tabbed/Anti-Rot Bearings			
ECP TBD #2 Engine Seal Puller			
ECP 58K-23 AGB Chip Detector			
TF34 Engine S-3:			
	ancies contained in ECP 23EG5504, Variable Geometry System Improvements, ECP 23EG5512 Co		
	ing and combine in the correct sequence the improvements into one ECP. The combined approach		
	ment of separate right and left VG linkages with a single improved linkage; installation of VG linkag	e retaining hardware; and incorporation of an improved stator co	ating.
Incorporation of these modifications wi	Il improve readiness.		
T64 Engine H-53:			
ECP 64E-55 Improved Single Ring Car	bon Seals at the Nos 2,3, and 4 bearing positions with more durable single-ring seals.		
ECP T64 Improved Main Fuel Control			
ECP TBD Combustion Liner Anti Rotati	on		
ECP TBD TiN Coating			
ECP TBD PT Over Speed Switch			
ECP TBD T-62T-27 Thermocouple Rela			
ECP TBD Comp Rear Spool Oil Drain H			
ECP TBD High Temperature Wolf Gask			
ECP TBD Lube Filter Bypass Valve Sea ECP T-62T-27 Elbow	at the state of th		
ECP TBD Reliability Centered Maintena	2000		
ECP TBD Reliability Centered Maintena	ance		
ZGI 122 / IIII ZGAN GIIGGN FAITG			
T700 Engine H-2, H-60, AH-1			
	Damper Improvement provides an Output Drive Assembly (ODA) with improved housing, damper a		
	age three containment ring to the power turbine module on all T700-GE-401C and T700-GE-701C ε te in aircraft equipped with infrared suppressors.	ingines to compensate for the increase in	
	Resistance will incorporate an improved tip material to preclude deterioration.		
	Improvements prevent internal contamination in the Woodward Governor HMU		
	Noton O-Ring in the Hamilton Standard HMU with a Fluorocarbon based O-Ring to prevent fuel leal	cades	
ECP T700 Turbine Blade Redesign	total o tang in the naminal etailada time mara traefocale in each o tang to proven tacrical		
ECP PPC 16 Rev A Blade Damper			
ECP TBD UNS-401C DECU Update			
T400 Engine AH1W, UH1N			
ECP TBD Bearing Pressure Oil Tube A	V22		
ECP TBD Bearing Pressure Oil Tube A			
ECP TBD Non Asbestos T5 Jumper Lea	ads		
ECP TBD Sprag Clutch Assy			
ECP TBD Improved P3 Filter Bowl Hou	sing		
ECP TBD Improved No. 5 & 8 Cup Was	· ·		
ECP TBD Improved No. 10 Bearing			

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Exhibit P-3a		INDIVIDUAL MODIFICATION		
MODIFICATION TITLE:	Power Plant Changes (OSIP: N/A)			
	• • • • • • • • • • • • • • • • • • • •			
MODELS OF SYSTEM AFFECTED:	All Active In-Service Navy and Marine Corps Aircraft		TYPE MODIFICATION:	Approx. 80% Safety, 20% Reliability
		<u> </u>		
T56 Engine P-3, C-2, E-2, C-130				
ECP 2132 Dummy Plug Redesign (SIII)				
ECP 2132 Dummy Plug Redesign (IV)				
ECP T-56-A-427-002 S/V Turbine Blade				
ECP T56-A-427-003 Polished Swirl Plat	е			
ECP 56-A-427-001 Fuel Nozzle Purge				
ECP TBD Governors				
ECP TBD SIV Dummy Plug Redesign				
ECP TBD Dome Shell Seal kit				
ECP 2122B EMS/EAU Software				
ECP 2131 DETC Omnibus Change				
ECP 2121 Diaphragm for RGB				
ECP 2102 Rear Engine Mount ECP 2115 TD Amp Harness				
ECP/AEM 104491 14 Stage Wheel				
ECP 2013R1 Custom 450 Comp Vane				
ECP 2127-3 Micron Scavenge Oil Filter				
ECP 2124 MFC Omnibus Change				
Lor 2124 Wil o olimbus onlange				
F414 Engine F/A18-E/F				
ECP TBD Combustor Flameout				
ECP TBD HPC Durability and Performa	nce			
ECP TBD MFM Kits				
ECP TBD MFC Bracket Rework				
ECP TBD Transfer Lever Arm				
ECP TBD HPT Nozzle Retaining Ring				
ECP TBD A-sump Tube Bracket				
ECP A-02 A/B Case Aft Ring Hardcoat				
ECP C-06 Rework Balnace Piston Vent				
ECP TBD VEN Start Line Cracking				
F405 Engine T-45				
ECP TS-234 Rising Idle Modification				
ECP TBD Compressor Improved Coatin	g			
ECP TBD LP Stator Coating				
ECP TBD Surge Modification Kits				
ECP TBD Omega Seals				
ECP TBD Electrical Harness				
ECP TBD Module 02 Coating				
ECP TBD HVC Vane Coating				
ECP TBD Modules 3, 10, 11 Coatings ECP TBD COSSI Drum				
ECF 1BD CO33i Diuili				
J85 Engine F-5, T-2, T-38				
ECP 85S-99 Carbide VEN Leafs				
ECP 85N-55 Improved Ignition				
ECP TBD Turbine Improvements				
ECP TBD Fuel Control Improvement				
ECP TBD Improved Ignitor System Com	ponents			
ECP 85E-106 High Temperature Clamp				
DEVELOPMENT STATUS/MAJOR DEV	ELOPMENT MILESTONES:			
All engineering efforts will be accomplis	hed prior to procurement of kits.			

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FINANCIAL PLAN (TOA, \$ in Millions)		ASSIFICATION			1		_						1		_		_		_		1	
	Prior \	rears \$	Qty	2002	FY 2 Qty	\$	FY Qty	2004	Qty	2005	Qty	2006	Qty	2007	Qty	2008	Qty	2009	To C Qty	Complete \$	TOTAL Qty	\$
RDT&E	Qty	207.476	Qty	29.936	Qty	30.094	Qty	50.187	Qty	44,229	Qty	Ÿ	Qiy	٠	Qty	9	Qiy	φ	Qty	φ	Qiy	Ÿ
PROCUREMENT		201.410		25.550		30.034		30.107		44.223			1									
Installation Kits																						
F110 Engine (F-14 B/D)																						
ECP T086 - Vented IDG Ejector Valve	292	0.403	45	0.071																		
ECP T130 - Master Chip Detector Relocation	90	0.567	60	0.385	60	0.393	60	0.404														
ECP T144 - LPT Stg 1 Shroud Improvement	120	0.485	60	0.251	60	0.256	30	0.131														
ECP T139 - Fuel Boost Pump Mod	120	0.244	60	0.129	60	0.132	30	0.070														
ECP T151 - Fuel Nozzle Moeller Fittings	140	0.315	70	0.168	60	0.147																
EMSP IMPROVEMENTS	105	0.262	45	0.120			79	0.210														
PYROMETER IMPROVEMENTS	90	0.225	60	0.156	60	0.163																
ECP-T158- FRONT FRAME DMPER MIGRA R	180	0.256	60	0.090	30	0.048																
T 2.5 SENSOR BRAZEJOINT IMPROVEMEN	300	0.060	120	0.024	60	0.012																
CMC FLAMEHOLDER	160	0.654	80	0.332	30	0.126																
T155 MEC IMPROVEMENT	60	0.060	63	0.063	30	0.030																
	-																					
F402 Engine (A/V-8B)																						
EVICS							2	0.245	2	0.240												
ECP TBD Revised Water Injection Pipe Runs							3	0.024														
ECP TBD MOD Mod Bottom Heat Sheild							4	0.024														
ECP TBD FMU HP Pump PRV							7	0.130	7	0.130												
ECP TBD LPC Stage 1 Damping Foil							10	0.260	10	0.260												
ECP TBD Mod to Accept EVICS							8	1.049	13	1.756												
ECP 3606 - INCO 718 BOLT	20	0.006	31	0.011	40	0.015																
ECP 3709C2 - IGVC Redesigned Bushings	60	0.187	73	0.190	54	0.014	25	0.078														
ECP 3763 FMU Mod	48	0.438	10	0.231	17	0.273	13	0.300														
ECP 3784 Encapsulated Wiring harness	257	1.453	20	0.133	18	0.155	18	0.205	18	0.205												
ECP 3782 ARMCO Liner/LPC Rear Lip	25	0.003	39	0.004	50	0.015	50	0.005														
ECP 3683 FCS & EMS P3 Pipe			39	0.025	50	0.017	50	0.040														
ECP 3722 Bleed Pipe Extension			39		50	0.025	50	0.025														
ECP 3729 Revised Attachment JPT			39		50	0.050	50	0.050														
ECP 3733 Curvic Coupling Corrosion	2	0.007	39			0.150	25	0.100														
ECP 3739 NGV Locating Ring	4	0.013	39			0.155							Ī									
ECP 3744 #2 BRG Seal Housing	8	0.009	39		50	0.050	50	0.050					Ī									
ECP 3748 #1 BRG Nut Changes	8	0.009				0.050	50	0.050														
ECP 3771 HP Rotor Nut Revison			39		50	0.020	50	0.025														
ECP 3787 DECU Hybrid Circuits			39			0.225	25		25	0.125												
ECP 3794 FMU Shielded Bearings			39		50	0.134	50															
ECP 3797 FMU Bonded Shells			39		50	0.075	50														1	
ECP 3798 PLAU Bonded Shells	48	0.140	27		38	0.045	38	0.050							<u> </u>					1	1	
ECP 3800 Transducer	+0	340	39		50	0.230	50	0.250					1							1		
ECP 3806 Hot Nozzle Cracking			42			0.230	25	0.450	25	0.456			1				1		1			
ECP 3806 Hot Nozzie Cracking ECP TBD SRD Comb/fuel nozzle			42	0.160	12	0.511	25	0.450	25	0.400			1									
													+-	1		1	1		1			
ECP TBD SRD Fuel Control kits													1				 		 		 	
1					I		I	I			l		1	I	1	ı	1	ı	1	l	1	1

FINANCIAL PLAN (TOA, \$ in Millions)	: CL	ASSIFICATION	ON:																			
	Prior Y			2002		2003		2004		2005		2006		2007		2008		2009		Complete	TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
F404 Engine (F/A-18 C/D)																						
ECP E78 - Main Fuel Control Selector Valve	2,465	0.885					142	0.093														
ECP A27 - VEN Position Transmitter Improveme	1,500	1.147					32	0.025	32	0.025												
ECP C67 - MFC Manifold Redesign	1,164	1.687					36	0.056	36	0.056												
ECP E70 - T1 Caution Capacitor Improvement	1,655	2.548					11	0.200	32	0.353												
ECP E91 - Improved MFC Ratio Boost Pston	700	1.054					69	0.080	69	0.080												
ECP F15 - Front Frame Transducer Bracket	1,100	0.551					25	0.011	25	0.011												
ECP TBD MFM kits							11	0.175	11	0.175												
ECP TBD Mod Turbine kits									7	0.425												
ECP TBD Mech. System Mod kits																						
J52 Engine (E/A-6B, A-6, A-4)																						
ECP 95XA013 - Redesigned Pressure Ratio & Compressor Stator Controls	114	0.249	38	0.101	38	0.106	38	0.110	38	0.124												
ECP CP93XA069 Thermal Barrier Coated 1st	114	0.249																				
Stage Turbine Stator Vanes			37	1.189	37	1.393	17	0.750	35	1.550												
ECP 95XA275C1 J52 Engine Retrofit ECP TBD 4 1/2 Bearing Redesign	14	1.507		-			270	0.300	90	1.000			1								 	
ECP TBD 4 1/2 Bearing Redesign							210	0.300	50	1.000												
ECP TBD Turbine Mod kits																						
T58 Engine (H-3, H-46)																						
ECP TBD Stage 3 Nozzle Antirotation							16	0.167														
ECP TBD Overspeed Switch							100	0.150	121	0.182												
ECP TBD High Temp O-rings							300	0.127														
ECP TBD Flow Divider Imp							16	0.075														
ECP 58C-24 Small Features Imp							16	0.018														
ECP TBD Stage 1 Nozzle Imp							16	0.019														
ECP TBD #1 Tabbed/Anti-Rot Bearings							108	0.216	108	0.216												
ECP TBD #2 Engine Seal Puller							1	0.030														
ECP TBD Mech Systems Mod kits								0.000													1	
ECP 58K-23 AGB Chip Detector									25	0.376												
ECP 56K-23 AGB Chip Detector									25	0.376			1									
TE24 Engine (\$.2)													1									
TF34 Engine (S-3) ECP TF34 - JAX 001 - ENGINE																						
COMPRESSOR STATOR CASE	194	0.127	64	0.136	64	0.136	24	0.051														
				.									 									
T64 Engine (H-53)				<u> </u>			ļ						 								ļ	
ECP 64E-55 - Impr. Single Ring Carbon Seals	420	0.821	60	0.130	60	0.141	44						 								ļ	
ECP T64 Improved Main Fuel Control							93	0.280														
ECP TBD Combustion Liner Anti Rotation							30	0.195														
ECP TBD TiN Coating							24	0.024					ļ									
ECP TBD PT Over Speed Switch							50	0.075														
ECP TBD T-62T-27 Thermocouple Relay							35	0.050														
ECP TBD Comp Rear Spool Oil Drain Holes							35	0.018														
ECP TBD High Temperature Wolf Gasket							100	0.024														
ECP TBD Lube Filter Bypass Valve Seat							100	0.010														
ECP T-62T-27 Elbow							100	0.050													1	

FINANCIAL PLAN (TOA, \$ in Millions)	: CL	ASSIFICATION	ON:																			
	Prior \	/ears	FY:	2002	FY 2	2003	FY	2004	FY:	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	Complete	TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
ECP TBD Reliability Centered Maintenance							14	0.125	14	0.125												
ECP TBD Anti-Leak Check Valve							100	0.024														
T700 Engine (H-2, H-60, AH-1)																						
ECP 700102C1 Stage 1 & 2 Turbine Dampers			26	0.973																		
ECP 136R2 - Nr.2 Bearing Housing & Damper Improvement			80	0.647	138	1.152	88	0.700	200	1.740												
ECP 122 - Stage 3 Rotor Ring	464	0.949	209	0.439	209	0.460	209	0.928	207	0.476												
ECP 123 - Stage 1 Blade Tip Corrosion Resistance	90	1.355	136	2.077	133	1.930	37	0.928														
ECP 124 - Exhaust Frame Drain Hole	400	0.400	200	0.200	200	0.220	0.	0.020														
ECP 125 - HydroMechanical Unit (HMU)																						
Improvements	104	0.421	95	0.399	104	0.447	64		108	0.497												
ECP 126 - HMU O-Ring	85	0.340	153	0.627	153	0.627	88	0.400	176	0.792			1		1		-		1	1	 	
ECP T700 Turbine Blade Redesign							28	0.200	443	2.650			1		1		-		1	1	 	
ECP T700 TBD VARIOUS																			<u> </u>	-		
ECP PPC 16 Rev A Blade Damper							150	0.870														
ECP TBD Compressor System Mod kits																					-	
ECP TBD Combustor Mod kits																					-	
ECP TBD UNS -401C DECU Update							50	0.078					-									
T400 Engine (AH1W, UH1N)																						
ECP TBD Bearing Pressure Oil Tube Assy							10	0.007														
ECP TBD Improved Air Inlet Screen							15	0.006														
ECP TBD Non Asbestos T5 Jumper Leads							80												1			
ECP TBD Sprag Clutch Assy							250	0.010					<u> </u>								1	
ECP TBD Improved P3 Filter Bowl Housing							30		30	0.184												
ECP TBD Improved No. 5 & 8 Cup Washers							60															
ECP TBD Improved No. 10 Bearing							30	0.010					<u> </u>								1	
													<u> </u>								1	
T56 Engine (P-3, C-2, E-2, C-130)													-							-	1	
ECP 2112R1 - 15 Micron Oil Filter	3,321	2.814	683	0.515									-							-	1	
ECP 2132 Dummy Plug Redesign (SIII)							25						 		 					-	 	
ECP 2132 Dummy Plug Redesign (IV)							25	0.181					<u> </u>							<u> </u>	1	
ECP T-56-A-427-002 S/V Turbine Blade Rework							10	0.055					<u> </u>							<u> </u>	1	
ECP T56-A-427-003 Polished Swirl Plate							30		10	0.150			1		 				ļ			
ECP 56-A-427-001 Fuel Nozzle Purge							26								 				<u> </u>			
ECP TBD Governors							60								!				<u> </u>			
ECP TBD SIV Dummy Plug Redesign							19								 				<u> </u>			
ECP TBD Dome Shell Seal kit							40	0.250	40	0.250			1		 				ļ			
ECP 2122B EMS/EAU Software							60	0.090							 				<u> </u>			
ECP 2131 DETC Omnibus Change							40	0.150					<u> </u>		<u> </u>							
ECP 2121 Diaphragm for RGB							70	0.035					<u> </u>		<u> </u>							
ECP 2102 Rear Engine Mount							50	0.015					<u> </u>									
ECP 2115 TD Amp Hamess							100	0.056					<u> </u>		<u> </u>							
ECP/AEM 104491 14 Stage Wheel							3	0.018					<u> </u>		<u> </u>						1	
ECP 2013R1 Custom 450 Comp Vane							4	0.036					<u> </u>									

FINANCIAL PLAN (TOA, \$ in Millions)): CL	ASSIFICATION	ON:																			
	Prior '	Years	FY:	2002	FY 2	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	Complete	TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
ECP 2127-3 Micron Scavenge Oil Filter							60	0.019														
ECP TBD Assy Mod kits																						
ECP TBD Wiring Mod kits																						
ECP 2124 MFC Omnibus Change							40	0.344	40	0.300												
F414 Engine (F/A-18E/F)																						
ECP TBD Combustor Flameout					150	0.015	150	0.015														
ECP TBD HPC Durability and Performance					85	0.045	60	0.032														
ECP TBD MFM Kits							50	0.350	80	0.715												
ECP TBD MFC Bracket Rework							50	0.150	50	0.150												
ECP TBD Transfer Lever Arm							75	0.371	30	0.150												
ECP TBD HPT Nozzle Retaining Ring							150	0.156	150	0.156												
ECP TBD A-sump Tube Bracket							100	0.035														
ECP A-02 A/B Case Aft Ring Hardcoat							10	0.034														
ECP C-06 Rework Balnace Piston Vent							15	0.033														
ECP TBD VEN Start Line Cracking					55	0.011	55	0.011	55	0.011												
ECP TBD Control System Mod kits																						
ECP TBD IGV Mod kits																						
ECP TBD Gas Path Mod kits																						
ECP TBD A/B Mod kits																						
ECP TBD Mech System/wiring mod kits																						
F405 Engine (T-45)																						
ECP TS-234 Rising Idle Modification	166	0.082					166	0.081														
ECP TBD Compressor Improved Coating					55	0.165	33	0.100	28	0.080												
ECP TBD LP Stator Coating					45	0.250	35	0.194														
ECP TBD Fuel Control Unit Life Enhancement					60	0.120																
ECP TBD Surge Modification Kits							83	0.150	83	0.150												
ECP TBD Omega Seals							83	0.075	83	0.075												
ECP TBD Electrical Harness							83	0.075	83	0.075												
ECP TBD Module 02 Coating							83	0.750	83	0.075												
ECP TBD HVC Vane Coating							83	0.050	83	0.050												
ECP TBD Modules 3, 10, 11 Coatings							83	0.050	83	0.050												
ECP TBD HPT Blades																						
ECP TBD LPT Blades																						
ECP TBD HPNGV																						
ECP TBD LPNGV																						
ECP TBD COSSI Drum							50	0.090														
J85 Engine (F-5. T-2. T-38)																						
ECP 85S-99 Carbide VEN Leafs*					30	0.348	8	0.100	42	0.434												
ECP 85N-55 Improved Ignition*					60	0.160	36	0.088	36	0.088												
ECP TBD Turbine Improvements							36	0.200	36	0.100												
ECP TBD Fuel Control Improvement							36		36	0.090												
ECP TBD Improved Ignitor System Components	1					1	36	0.061			l	l			l		l			1		

EINIANCIAL	DI ANI/TOA	\$ in Millione).	CLASSIEICATION:

	Prior Y	'ears	FY 2	2002	FY 2	003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To C	Complete	TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
ECP 85E-106 High Temperature Clamps*					107	0.008	36	0.055														
COMPLETED ECPS FROM PRIOR YRS	32,169	193.063																				
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.171		0.050		0.050		0.050		0.050												
Non Recurring Equipment		0.164																				
Support Equipment		0.106								0												
ILS		3.073		0.500		0.495		0.382		0.505												
Other Support		30.317		0.285		0.398		0.898		1.029						_						
Interim Contractor Support																						
Installation Cost		28.495		1.169		1.166		1.425		0.500												
TOTAL PROCUREMENT	48,262	278.122	3214	12.876	3,122	13.359	6,436	21.564	3,038	19.742												

hibit P-3a																								
ODELS OF SY	STEMS AF	FECTED:		All Active	In-Service	Navy and	Marine Cor	ps Aircraft			N	MODIFICAT	ION TITLE:	Power Pla	nt Changes	(OSIP: N/A	۸)							
STALLATION	INFORMAT	ΓΙΟΝ:		e tables belown in these									nstallation of	cost. Of tho	se ECPs wi	th installation	on costs, thr	ree are not s	shown as th	ney are labo	r-only modil	fications and	d require no	kit. The r
THOD OF IM	PLEMENT	ATION:		Current wit	h engine/m	odule repai	r (where ins	tallation cos	st is zero), o	r by forced	retrofit (sho	own below).												
MINISTRATI	/E LEADTI	ME:		Average 6			Months	-			PRODUC	TION LEAD	TIME:	Average o	f 12 months				-					
NTRACT DA	TES:	FY 2002:	Varies			_		FY 2003:	Varies			-		FY 2004:	Varies			-				FY 2003:	Varies	
IVERY DAT	E:	FY 2002:	Varies			_		FY 2003:	Varies			-		FY 2004:	Varies			-				FY 2003:	Varies	
														in Millions)										
	Cost:			r Year		2002		2003	FY 2			2005		2006		2007	FY 2008		FY	2009		omplete		OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			Qty	\$	Qty	\$
	and Prior (5,542)	4,560	7,060	982	1,132																		
2002 (24					185	27	59	64																
003 (52							469	471	59	64														
2004 (1,0									516	58	523	504												
_	10) kits										400	410												
2006 () k																								
2007 () k																								
008 () k																								
009 () kit																								
Complete TAL	() kits		4,560	7,060	1,167	1,159	528	535	575	122	923	914												
illation Sc																						1		
	FY 2001 & Prior			2002			FY:					2004				2005		FY 2006	1 -	1 -		_		
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4		
1	4560 4560	291 291	292 292	292 292	292 292	130 130	133 133	133 133	132 132	142 142	145 145	144 144	144 144	230 231	231 231	231 231	231 231			<u> </u>	<u> </u>	1		
	4500	291	292	292	292	130	133	133	132	142	145	144	144	231	231	231	231	l	l .	ı	1	J		
1		FY 2	2007			EV.	2008			EV.	2009		-	Го			1							
	1	2	3	4	1	2	3	4	1	2	3	4		nplete	TO	TAL								
			3	-			3	-	<u> </u>		3			316	11,		ł							
				-		1		1						316	11,		l							
ut																								

Exhibit P-40, BUDGET ITEM JUSTIFICATIO	N							DATE:				
										Febru	ary 2003	
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Mo	difications					P-1 ITEM NOME	NCLATURE		JPATS Serie	s Modification		
Program Element for Code B Items:						Other Related	l Program Elem	nents				
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)		A			0.5	0.7	0.7	1.6	1.3	1.5	3.5	9.8

This line item funds modifications to T-6A aircraft. The T-6A Texan II is a tandem-seat, tuboprop aircraft derivative of the Pilatus PC-9 aircraft powered by a single Pratt &Wittney PT6A-68 engine. It serves as the aircraft component of the JPATS integrated primary pilot training system which replaces the T-34C primary training aircraft. The overall goal of the modifications budgeted in FY 2004 is to correct discrepancies and deficiencies discovered after delivery of the aircraft, maintain joint configuration with Air Force aircraft and the joint program. It also incorporates major upgrades to the aircraft cockpit, navigation system, and aircrew life support systems (ALSS).

The designed service life of the aircraft is 18,000 hours with first aircraft delivery 1st quarter FY '03.

The specific modifications budgeted and programmed are:

(TOA, \$ in Thousands)

OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	<u>Complete</u>	To <u>Total</u>
11-04	JPATS Correction of Deficiencies				0.5	0.7	0.7	1.6	1.3	1.5	3.5	9.8
	Total				0.5	0.7	0.7	1.6	1.3	1.5	3.5	9.8

Note: Totals may not add due to rounding. *Indicates amount less than 51K.

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CLASSIFICATION: UNCLASSIFIED

service life. Corrections to the following items/conditions are required:

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	JPATS Correction of Defeciencies (OSIP 11-04)		
MODELS OF SYSTEMS AFFECTED:	<u>T</u> -6A	TYPE MODIFICATION:	PS SAFETY
DESCRIPTION/JUSTIFICATION:			
	ng and evaluation can sometimes be incorporated into production aircraft, effective with the pl	,	·
this cannot be done due to time constraints, retro	fit of the changes into already delivered aircraft requires funding through the Aircraft Modificat	ion Program. Additionally, defici-	encies discovered during Fleet operations must be corrected.

The unacceptable alternative to retrofitting would be multiple configurations in the Fleet, which creates maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced

VHF radio ECP (ECP XXX)
OBGS upgrades (ECP XXX)
Oil Cooling/Pressure (ECP XXX)
PC-9 antisuffocation valve

ISS change

Cockpit Improvements (ECP XXX)

TCAS (ECP XXX)

Canopy System Improvement (ECP XXX) Avionics Obsolescence (ECP XXX) Antiskid/Beta (ECP XXX)

TIMS/CBTS software (ECP XXX)

Timo/obio soliware (Lot 7000)

Replace TIMS/CBTS terminals (ECP XXX) GBTS (ECP XXX)

Provide for the correction of volume and reception level discrepancies. Current volume inequities between the UHF/VHF radios make the radio unintelligible and a safety concern for aircrew.

Safety modifications to improve the normal and emergency aircrew oxygen supply systems. Mods address increased supply, delivery control box and software logic corrections. Safety modifications to correct oil cooling /pressure cockpit warning indications and associated systems to improving aircrew situational awareness and overall systems operation.

Safety modification addressing excessive force required to breath of current valave. Correction will solve unconscience aircrew air supply requirements.

Modifies Interseat Sequencing System (Ejection system) to add two additional modes allowing command ejection authority designated to each seat.

Safety and Human Factors modification to the cockpit to improve aircrew efficiencies and to eliminate excessive pilot workload and other dangerous situations. Modifications include rearview mirrors,

improved cockpit storage, improved night lighting, reducing excessive ambient noise, improved trim relays, open avionic wire bundles, communication audio volume solutions, nose wheel

position/positioning systems and flight instrument display issues.

Safety modification to replace the obsolete and unsupportable Naval Aircraft Collision Warning System (NACWS) due to FAA changes in the National Airspace System.

Modifications to the current canopy system to improve anti G subsystem and canopy seal valve failures. Provides for the identification and replacement of identified obsolescent cockpit instruments and displays.

Safety modification to improve the short field abort and stopping distances of the aircraft through the introduction of improved braking and reverse pitch propeller systems.

Modification to the Training Integration and Management System software to correct deficientcies in Head Quarters level functionality not envisioned or required during design but operationally

required today.

Provides for the replacement and maintainability classroom/administrator computer terminals for obsolescence and supportability. TIMS/CBTS consist of over 600 computers and 6 servers. Modifies the Ground Based Training System (consisting of all aircrew training devices (simulators)) for operational deficiencies discovered during student training evolutions. Modifications

include Unit, Instrument, Operational Flight training Device software and hardware fixes to improve reliability, changes in flight publications and aircraft operating procedures and

geographic data base requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Feb 93 received MS 0 and MS I approval, Aug 95 received MSII and LRIP approval, Dec 01 received MS III approval, and 4th Qtr 03 scheduled Navy IOC.

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Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	JPATS Correction of Defeciencies (OSIP 11-04)		
MODELS OF SYSTEMS AFFECTED:	<u>T-6A</u>	TYPE MODIFICATION:	PS SAFETY

FINANCIAL PLAN: (TOA, \$ in Millions)

		Years		2002		2003	FY 2	004		2005		2006		2007		2008		2009		mplete	Tot	al
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
VHF Radio							35	*														
OBOGS upgrades							35	0.2														
Oil pressure annunciation							35	0.2														
PC-9 antisuffocation valve							7	*	7	0.1												
ISS change									9	0.1												
Cockpit Improvements									7	0.1												
TCAS									7	0.2												
Canopy System Improvement																						<u></u>
Avionics Obsolescence																						
Antiskid/Beta									7	0.2												
TIMS/CBTS software																						
Replace TIMS/CBTS terminals																						
GBTS							5	*	5	*												
Installation Kits NR																						
Installation Equipment																						
VHF Radio							35	*														
Oil pressure annunciation							35	*														
ISS change									9	*												
Cockpit Improvements									7	*												
TCAS									7	*												
Canopy System Improvement																						
Avionics Obsolescence																						
Antiskid/Beta									7	*												
nstallation Equipment NR																						
Engineering Change Orders																						
Data								*		*												
Training Equipment								*		*												
Support Equipment								*		*												
ILS								*		*												
Other Support								*		*												
Interim Contractor Support																						
Installation Cost									117	0.1												
Total Procurement							117	0.5	42	0.7												

Notes:

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-	3a										lı	ndividual	Modificat	tion										
MODIFIC	ATION TIT	ı F·				ΙΡΔΤΟ	Correction	n of Defe	eciencies	(OSIP 11	-04)													
	ATION INFO		ON:									ation/PC	-9 Anti-su	ffication	Valve/ISS	S Change	e/Cockpit	Improve	ments/TC	AS/Can	opy Syste	em Impro	vement/	Avionics
								9'		,,,,,,,,								.p. 210			., , -, 510			
MODELS	OF SYSTE	MS AFFE	ECTED:			T-6A										_	TYPE N	10DIFIC	ATION:	PS SAF	ETY			
ADMINIST	RATIVE LE	ADTIME:				*	Months	<u>-</u>			PRODU	CTION L	.EADTIM	E:			12	Months	<u> </u>					
CONTRAC	T DATES:	EV 2002:						EV 2003:						FY 2004:		\/a	rious			EV 2005:		\/aı	rious	
JONTINAC	I DAILS.	1 1 2002.					=	1 1 2003.					- '	1 2004.		va	ilous		- '	1 1 2005.		vai	ilous	
DELIVERY	DATE:	FY 2002:						FY 2003:						FY 2004:		Va	rious		1	FY 2005:		Vai	rious	
							_						='						_					
					ī		ī					(\$ in Mi			1								T	
	Cost:			Years		2002		2003		2004		2005		2006		2007	+	2008	_	2009	1	mplete		DTAL
F) / 000 /	0.50(());		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY () ki	ts													.		1							
FY 2003	. ,																							
FY 2004	. ,										112	0.1												
FY 2005	. ,												37	0.1										
FY 2006	. ,																							
FY 2007	. ,																							
FY 2008	. ,																							
	plete () kits																							
TOTAL	pioto () itito	,									112	0.1	37	0.1										
Notes:					•		•	ı								ı		1					-1	1
1. Quantity	totals from F	7 07-09 inclu	ude CBT 1	50 termina	ls and 1 se	rver per ye	ar.																	
L C. H. C.																								
installatio	n Schedule																							
	FY 2001		FY 2	002			FY	2003			FY 2	2004			FY	2005			FY	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	Ī													28	28	28	28							
Out														28	28	28	28							
	ļ., ,	FY 20		T .			2008	1 .	L .		2009		1	0										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	ТО	TAL	-							
In Out									-				-				-							
Out			ı	i		1	1	1	1		ı	1	1		I									

Exhibit P-3	3a											Individua	l Modifica	tion										
	ATION TIT									(OSIP 11														
INSTALLA	ATION INF	ORMATIC	N:			TIMS/C	BTS Soft	ware, Re	place TII	MS/CBTS	Termina	als, GBT	S	-										
MODELS	OF SYSTE	MS AFFE	ECTED:			T-6A										-	TYPE M	10DIFIC	ATION:	PS SAF	ETY			
ADMINIST	RATIVE LE	ADTIME:				*	Months	<u>s</u>			PRODU	JCTION I	EADTIM	E:		1	12	Months	<u>s</u>					
CONTRAC	T DATES:	FY 2002:					=	FY 2003:					_	FY 2004:		Var	rious		_	FY 2005:		Var	rious	
DELIVERY	DATE:	FY 2002:					=	FY 2003:					_	FY 2004:		Var	rious		_	FY 2005:	:	Var	rious	
												(\$ in Mi	illions)											
	Cost:		Prior `	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	TO	TAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001	& PY () ki	ts																						
FY 2002	() kits																							
FY 2003	() kits																							
FY 2004	() kits										5	1												
FY 2005	() kits												5	*										
FY 2006	() kits																							
FY 2007	() kits																							
FY 2008	() kits																							
FY 2009	() kits																							
To Comp	olete () kits	3																						
TOTAL											5	1	5	*										
	totals from F		ude CBT 15	50 termina	ls and 1 se	rver per ye	ar.																	
	FY 2001		FY 20	002			FY	2003			FY	2004			FY	2005			FY	2006		1		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In														1	1	1	2					1		
Out														1	1	1	2]		
																	_					_		
		FY 20	007			FY	2008			FY:	2009			Го										
	1	2	3	4	1	2	3	4	1	2	3	4	Con	nplete	ТО	TAL								
In	l												6	51	6	56								
Out														51		56	1							
							1						<u> </u>											

CLASSIFICATION: UNC	LASS	IFIED										
Exhibit P-40, BUDGET I	TEM JUSTIFI	CATION							DATE:			
										Febru	ary 2003	
APPROPRIATION/BUDGET ACTIVIT	ΓΥ						P-1 ITEM NOME	NCLATURE	•			
Aircraft Procurement,	Navy/APN-5 Ai	rcraft Modific	ations							Aviation Life	Support Series	3
Program Element for Code B Items:							Other Related	d Program Ele	ments			
			05	7500								
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)		A		0.5	6.4	4.9	8.4	23.6	21.5	10.7	16.6	92.6

The specific modifications budgeted and planned are:

(TOA, \$ in Millions)

OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	<u>Total</u>
17-03 XX-07	OBOGS MARS			0.5	6.4	4.9	8.4	9.7 13.9	9.8 11.8	8.0 2.7	9.9 6.7	57.5 35.0
Total				0.5	6.4	4.9	8.4	23.6	21.5	10.7	16.6	92.5

Note: Totals may not add due to rounding.

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 51 PAGE NO. 1

⁽¹⁾ The conversion of aircraft from Liquid Oxygen (LOX) to On-board Oxygen Generation Systems (OBOGS) for aircrew breathing purposes. This conversion is referred to as LOX-to-OBOGS (LTO) and is part of a cost reduction initiative to eliminate the need for manufacturing and storing of liquid oxygen. The Navy plans to eliminate LOX from all aircraft carriers by 2010 which will require the conversion of carrier based aircraft to OBOGS.

⁽²⁾ The addition of the Mobile Aircrew Restraint System (MARS) to helicopters. MARS will replace existing fixed length tether with a locking retraction system that allows safe movement of the aircrew within the cargo area while affording protection during a mishap or combat. MARS will be mounted to the aircraft overhead.

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	Liquid Breathing Oxygen To On Board Oxygen generation System (OBOGS)		_
MODELS OF SYSTEMS AFFECTED:	EA-6B, E2, C2, F/A-18	TYPE MODIFICATION:	Common Aircrew System (Cost Reduction & Safety)

DESCRIPTION/JUSTIFICATION: This modification is referred to as LOX-to-OBOGS (LTO) and is part of a cost reduction initiative to eliminate the need for manufacturing and storing of liquid oxygen. Generating breathing oxygen during flight with OBOGS has been utilized for 15 years and has eliminated the need for liquid oxygen in newer aircraft. However, older aircraft still require the use of liquid oxygen with the attendant costs, safety hazards, and mission limitations. The OBOGS works by using compressed air from the aircraft engine, passing it through a heat exchanger to reduce air temperature, and then through a concentrator to remove nitrogen thus providing an oxygen enriched breathing gas for the aircrew. An oxygen monitor is installed in the aircraft to ensure adequate oxygen generation.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: OBOGS is a mature technology. Plans are to begin NRE in FY03, continue NRE into FY04, and begin production in FY05. Congress in FY03 added \$1.0M and \$3.5M for EA-6B and E-2C, respectively, to accelerate the OBOGS integration for these platforms. The quantities, schedules, and costs for the EA-6B and E-2 have been adjusted for the Congressional plus up and the latest budget guidance.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						<u> </u>
PROCUREMENT																						
Installation Kits																						<u> </u>
F/A-18 Installation Kit									1	0.1												<u> </u>
EA6B Installation Kit							3	0.3	4	0.3												<u> </u>
E-2C Installation Kit							3	0.3	4	0.3												<u> </u>
C-2A Installation Kit									1	0.1												<u> </u>
Installation Kits N/R								2.2														<u> </u>
Installation Equipment																						<u> </u>
F/A-18 OBOGS Equip									1	0.0												<u> </u>
EA-6B OBOGS Equip							3	0.2	4	0.2												
E-2C OBOGS Equip							3	0.2	4	0.2												
C-2A OBOGS Equip									1	0.1												<u></u>
Installation Equipment N/R						0.5		0.9														<u> </u>
Engineering Change Orders																						<u> </u>
XXX Kit ECO XXX																						<u> </u>
XXX Equip ECO XXX																						
Data								0.7		1.4												
Training Equipment																						
Support Equipment																						<u> </u>
ILS								0.5		0.4												<u> </u>
Other Support								1.0		1.2												<u> </u>
Interim Contractor Support																						
Installation Cost									6	0.6												
Total Procurement						0.5		6.4	,	4.9					,			,		,		

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

MODELS O	F SYSTEM	IS AFFEC	CTED:	EA-6B,	E2, C2, I	FA/18				-	MODII	FICATIO	N TITLE:		Liquid C	xygen to	On-Boar	d Oxyger	n Genera	tion Syst	em (LTO)					
INSTALLAT	ION INFOR	RMATION	l:	NAVY [URING	SDLM, N	AVY DR	IVE-IN M	OD, COM	NTRACT	OR DURI	NG SDL	M, CONT	TRACTO	R DRIVE	-IN MOD											
METHOD O	F IMPLEM	ENTATIC	N:	DEPO	T, CON	TRACT	OR																				
ADMINISTR	ATIVE LEA	AD-TIME:				6	Months	<u> </u>			PRODU	CTION L	EAD-TIM	ſΕ:			12	Months	-								
CONTRACT	DATES:		FY 2002:					_		FY 2003:					_			I	FY 2004:		Ма	r-04	-		FY 2005:	N	/lar-05
DELIVERY I	DATE:		FY 2002:					_		FY 2003:					_			ı	FY 2004:		Ма	r-05	-		FY 2005:	(Oct-05
													(\$ i	in Million	 										-		
	Cost:		_	Years		2002		2003		2004		2005		2006		2007		2008		2009		mplete		TAL	1		
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
	& PY () k	its																							4		
FY 2002	. ,																										
FY 2003	· ·																								4		
FY 2004											6	0.6													4		
FY 2005																									4		
FY 2006	0		.												.						.				4		
FY 2007 (1												1						1				4		
FY 2008 (FY 2009 (1																						-		
	0		ł — —												-						-				-		
TOTAL	lete (202) k	ais	<u> </u>								6	0.61													1		
Installation	n Schedule		FY 2	2002			EV	2003			- FV	2004			EV	2005			FV.	2006					-		
l	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	Q 1 1101	-						 							1	3	3										
Out																3	3										
											•											•					
į		FY 2	007			FY	2008			FY	2009		Т	Го			Ì										
ļ	1	2	3	4	1	2	3	4	1	2	3	4		plete	то	TAL											
In													1	02	2	08											
Out			İ											02		08											
<u> </u>			•	•	-	•	•	•	_	•	•		-		•		•										

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE:				
										Fe	bruary 2003	š
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOMEN	CLATURE					
Aircraft Procurement, Navy/APN-5 Aircraft Modi	fications									Common	ECM Modifica	tions
Program Element for Code B Items:						Other Related	Program Elem	ents				
	Prior	ID									То	
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
QTY		A										
COST (In Millions)	688.1	A	34.9	28.7	20.7	43.4	58.0	41.0	41.0	41.7	750.2	1,747.8

This line item funds common equipment (B kits) for multiple aircraft. The overall goal of the modification budget is to provide a reprogrammable radar and missile warning system, provide attacking missile declaration and sector direction finding, laser detection, and self production capability devices to applicable user aircraft.

(TOA, \$ in Millions)

											To	
OSIP No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total
114-85	AN/ALR 67(V)2 - PHASE 1	222.0	8.0									230.0
72-88	AN/AAR-47 MAWS Hardware	167.6	10.5	10.1	8.7	6.9	8.5	0.7			33.6	246.6
14-90	AN/APR-39 (V)2 RWR & AN/AVR 2 Hardware	156.8	1.7	2.9							33.9	195.4
30-92	LAU 138A/A BOL System	38.3	0.6	0.7								39.6
22-97	ASPJ	46.0	1.9									47.9
26-99	AN/ALR 67(V)3 & 4	44.7	4.0	3.4							247.7	299.8
06-00	ALE-39 to 47 Retrofit	12.7	8.3	7.2								28.1
007-03	IDECM			4.3	12.0	36.5	49.5	40.4	41.0	41.7	435.0	660.4
	Total	688.1	34.9	28.7	20.7	43.4	58.0	41.0	41.0	41.7	750.2	1,747.8

Note: Totals may not add due to rounding.

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	AN/ALR-67(V)2 Radar Receiving Set (OSIP 114-85)		
MODELS OF SYSTEMS AFFECTED:	F/A-18, F-14, AV-8B	TYPE MODIFICATION:	Mission Capability

DESCRIPTION/JUSTIFICATION: This Operational, Safety and Improvement Program (OSIP) provides for the procurement of common equipment for the F/A-18, AV-8B and F-14 aircraft. Provisions, i.e. airframe changes needed for the installation of this equipment, are budgeted separately.

The AN/ALR-67(V)2 is an airborne radar warning receiver and EW Bus controller system for advanced tactical aircraft. The TEMP, CNO Project Number 521, AN/ALR-67(V)2, defines the requirement. The system provides radar band frequency coverage, displays threat azimuthal bearing, provides audio warning for critical threats and coordinates the operation of onboard electronic warfare equipment. The ALR-67(V)2 is a legacy system that is planned to be used through the year 2015 on the F/A-18C/D, AV-8B and F-14 aircraft. The total number of systems is 1209, including F-14, F-18 A,B,C,D, and AV-8B aircraft. Periodic hardware and software upgrades are necessary in order to keep the system supportable and to provide acceptable performance against changing threat environment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The program is currently correcting systems sensitivity (Phase 1) deficiencies noted during past operational testing. Congressional add in FY 99 funded initial Phase 1 correction of deficiencies effort for AV-8 and F-14 aircraft. A contract was awarded first quarter FY 2001 for Phase I for correction of deficiencies. During the POM 02 budget cycle N88 decided to retrofit all ALR-67(V)2 systems with Phase I as soon as possible.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	or Years	FY 2	2002	FY:	2003	FY:	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY 2	2009	To Co	mplete	Т	Γotal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AN/ALR-67(V)2 kit	133	23.3																				
Installation Kits N/R																						
Installation Equipment																						
V2 Upgrade Equip	194	45.7																				
Installation Equipment N/R																						
Installation Equiupment Correction	638	4.8	294	2.4																		
Engineering Change Orders		72.9																				
Data		3.0																				
Training Equipment		0.8																				
Support Equipment		13.1																				
ILS		4.4		0.8																		
Other Support		54.1		4.8																		
Interim Contractor Support																						
Installation Cost		·					, and the second								·	, in the second		, in the second				
Total Procurement		222.0		8.0			,		·	·								,				

Notes:

1. Totals may not add due to rounding

UNCLASSIFIED

CLASSIFICATION:

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AN/AAR-47 Missile Approach Warning System (MAWS) (OSIP 72-88)

CH-46E, CH-53A/D/E, RH-53D, MH-53E, UH-1, AH-1, C-130,

MODELS OF SYSTEMS AFFECTED: P-3, HH-60H, SH-60B, VH-3, VH-60, V-22

TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The AN/AAR-47 warns of approaching missiles by detecting radiation associated with the rocket motor and automatically initiates flare ejection. Detection algorithms are used to discriminate against non-approaching radiation sources. The AN/AAR-47 is a passive missile approach warning system consisting of four sensor assemblies housed in two or more sensor domes, a central processor unit and a control indicator. The AN/AAR-47 provides attacking missile declaration and sector direction finding (DF) and will be interfaced directly to the ALE-39/47 countermeasures dispenser. Without the AAR-47, helicopters and Fixed Wing Aircraft have no capability to detect an infrared (IR) missile attack.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone II was passed in 1982. A contract for eight Engineering Models was awarded to Honeywell (now Lockheed Martin) in Mar 83, with fixed-price options for up to 810 production systems. OPEVAL (on the CH-53E) was passed in Oct 86.

Milestone III was passed in May 87 for full production with extension of application to all other platforms. Production of 709 systems and preparation of a Level III data package followed, with deliveries completed in early 1992. Under full and open competition, a contract for up to 1200 systems was awared to Hercules (now Alliant) in Dec 91. Actual orders were for 1122 systems with deliveries completed in Jan 97. Under full and open competition, a contract for up to 1077 systems was awareded to Lockheed Martin in Sep 95. Deliveries began in Jan 97 and were completed in Jul 99.

There are two upgrade programs: FY-97/98/99 funded a microprocessor upgrade to replace the 8086 board with an 80486 running new software to enhance threat declaration and to better control false alarms. This software delivers the maximum performance attainable using current sensors. FY-01 and beyond also funds a sensor upgrade. The current sensors are starting to wear out after 5 years, due to temperature sensitive materials. The new sensors will remove this limitation and will also provide improved performance. This will allow the AAR-47 to better respond to new threats via software changes only. Both upgrades are 100 percent retrofit. There are 2500 systems for installation on all applicable aircraft. TEMP # 543 documents the current requirement. ORD #500-88-98 documents existing requirements for the upgrades.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY	2007	FY 2	2008	FY 2	2009	To Co	mplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		24.0																				
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
AAR-47 Equip	1,250	90.2																				
Installation Equipment N/R																						
CP Upgrade N/R		4.7																				
Sensor Upgrade N/R		15.9		2.0		2.0																
Engineering Change Orders																						
CP Upgrade Equip ECO	1,250	7.0																				
Sensor Upgrade Equip ECO	80	4.0	105	4.8	143	7.0	141	7.5	82	5.5												
Data		0.3																				
Training Equipment	4	0.6																				
Support Equipment		4.8		0.8																		
ILS		4.8		0.2		0.2		0.3		0.3												
Other Support		35.4		2.7		1.0		0.9		1.1												
Interim Contractor Support																						
Installation Cost		*																			,	
Total Procurement		167.6		10.5		10.1		8.7		6.9												

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

CLASSIFICATION: UNCLASSIFIED

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AN/APR-39A(V)2/AN/AVR-2/2A(V) Electronic Warfare Receivers (OSIP 14-90)

AN/APR-39(V)2; AH-1W, AH-1Z, UH-1N, UH-1Y, HH-60H, CH-53D/E/HM-53E, KC-130F/R/T, VH-3D

MODELS OF SYSTEMS AFFECTED: VH-60N, SH-60B, MV-22, AN/V4-2/2(V); AH-1W, AH-1Z, MV-22, UH-1N, TYPE MODIFICATION: Mission Capability

UH-1Y, VH-3, VH-50, HH-60H, SH-60R

DESCRIPTION/JUSTIFICATION: The AN/APR-39A(V)2 Radar Signal Detecting Set (RSDS) is designed for use on US Marine Corps, US Navy, and US Army Assault Support aircraft to provide onboard warning of radar threats. The AN/APR-39A(V)2 provides control and display of the entire Assault Support Equipment(ASE) Suite, and is required for control and display of the AN/AVR-2/2A(V) and the AAR-47. The system consists of five antennas on Ecockpit Corps indicators, two to four receivers, and one processor. The AN/AVR-2/2A(V) laser detection set (LDS) is designed for use on U.S. Army, U.S. Marine Corps, and U.S. Navy Assault Support aircraft. The AN/AVR-2/2A(V) reduces the susceptibility of helicopters to attack from laser guided and laser aided threats by providing warning of laser illumination. The system consists of four to six sensor units and one or two comparators. The system requires the APR-39A(V)2 Cockpit Control Unit for On/Off and BIT. AVR-2/2A(V) warnings are displayed on the APR-39A(V)2 cockpit display.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The U. S. Army awarded a production contract for the AVR-2 in FY 90 and for the AVR-2A(V) in FY 94. Procurement for the U.S. Marine Corps and the U.S. Navy is via Military Interdepartmental Purchase Request (MIPR) to the U.S. Army.

The AN/APR-39A(V)2 is in the production phase of development (MSIII 3Q/96). The U.S. Navy is the lead service of this joint service program. The U.S. Army awarded the production contract 3Q/96, and continues to administer the contract. U. S. Navy delivery of production systems commenced June 99. Procurement of an AN/AVR-2/2A(V) in the AN/APR-39(V)2 for the additional requiring platforms will be by extension of application with the required follow-on test and evaluation conducted on each platform.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		6.8																				
PROCUREMENT																						
Installation Kits					7	0.3																
Installation Kits N/R																						
Installation Equipment																						
AN/AVR-2/AN/APR-39A Equip.	590	85.2			6	1.4																
Installation Equipment N/R		16.7																				
Engineering Change Orders																						
Equip ECO		17.5		0.5																		
Data		0.9		*		0.1																
Training Equipment		1.0																				
Support Equipment		2.1																				
ILS		6.3																				
Other Support		27.2		1.3		1.1																
Interim Contractor Support																						
Installation Cost																						
Total Procurement		156.8		1.7		2.9																

Notes:

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	LAU 138/A/A BOL System (OSIP 30-92)		
MODELS OF SYSTEMS AFFECTED:	F-14A/B/D	TYPE MODIFICATION:	Mission Capability

DESCRIPTION/JUSTIFICATION: The original Operational, Safety and Improvement Program (OSIP) provided for the procurement of LAU-138/BOL for the F-14 A/B/D and upgrade aircraft. The BOL system (LAU-138A/A) is composed of an electro-mechanical chaff dispenser (D-46/ALE-39), a modified "Sidewinder" guided missile launch rail, a Nitrogen Receiver, and an Interconnecting Box (J-4937/ALE-39). The system was procured on a basis of two systems per aircraft, but up to four may be carried on the F-14. A total of 400 LAU-138A/A systems were procured. This update reflects funding for Engineering Changes required to the pool of launchers/dispensers for changes necessary for compatibility with the new ALE-47 Countermeasures Dispensing System, the upgraded ALE-39 to 47 retrofit conversions (OSIP 6-00), and addresses changes to the launcher to correct some corrosion issues to improve reliability and expendable accountability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 400 LAU 138A/As were procured as non-developmental items under two separate contracts and are now operationally deployed on F-14 aircraft. Full logistics support and spares support are not yet in place. 25 Common Rack and Launcher Test Sets (CRALTS) adapters are needed to fill Support Equipment Requirements Management Information System (SERMIS) requirements to replace the interim UIM-5 Test set. The CRALTS software was updated to test the changes to the LAU 138 launcher. The pool of 400 launchers under PMA 201 control will be modified by the contractor supported Depot Repair Facility at Indianapolis as part of a combined corrosion retrofit and LAU 138 Mod Kit installed IAW the class I LAU 138 ECP-00001. Five Val-Ver Mod kits were designed, built and tested in FY 00 including a live Fire Missile test using a modified LAU 138. 60 LAU 138 Production Kits were then procured in FY00 and installation in FY 01 on a rotable pool of launchers. 240 additional kits were procured in FY 01 and the remaining 100 Kits will be procured in FY02. Installation in conjuction with a PMA 201 sponsored ECP corrosion effort continues at the rate of 20 launchers modified per month. Installations scheduled for completion in FY 03. The new launcher designation will be LAU 138B/A, fully functional with ALE 47 retrofit configuration for the F-14B/D and will be backwards compatible on F-14As which will still carry the ALE 39 Countermeasures dispenser.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	Years	FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		5.8																				
PROCUREMENT																						
Installation Kits D46-ALE-39	354	1.4	100	0.2																		
Installation Kits N/R		0.9		0.2		0.4																
Installation Equipment																						
Equip	1,630	24.8																				
Installation Equipment N/R		0.1																				<u> </u>
Engineering Change Orders																						<u> </u>
Equip ECO TBD		1.8																				<u> </u>
Data		0.6																				
Training Equipment		0.2																				
Support Equipment		2.9																				
ILS		3.3				0.1																
Other Support		2.3		0.2		0.3																
Interim Contractor Support																						
Installation Cost																						
Total Procurement		38.3		0.6		0.7																

Notes:

1. Totals may not add due to rounding

Exhibit P-3a		Individual Modification		
MODIFICATION TITLE:	ASPJ (OSIP 22-97)			
MODELS OF SYSTEMS AFFECTED:	F/A-18 C/D		TYPE MODIFICATION:	Mission Capability

DESCRIPTION/JUSTIFICATION: The AN/ALQ-165 is a fully integrated internally mounted Electronic Protection (EP) system capable of detecting, identifying and countering modern land, sea and airbased radar threats. In FY97 Congress directed procurement of additional AN/ALQ-165 systems and racks for installation in F/A-18C/D aircraft to support emergent operational requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development of the system was completed and LRIP I procurement was approved by the DAB in June 1989. Production contracts were terminated in Dec 1992. Installation kits have been provisioned for all F/A-18C/D aircraft capable for AN/ALQ-165 installation. FY 1997 contract was awarded first quarter FY 98 to comply with Congressional direction. Contract to update 1000 racks for F/A-18C/D/E/F was awarded last qtr FY99. FY00 effort was to identify and correct shock-induced damage to racks during carrier operations. FY02 effort was to resolve recurring aircraft-rack-transmitter shock-induced damage. Reducing Transmitter weight will reduce high G-forces at take-off (and resultant stress fractures).

FINANCIAL PLAN: (TOA \$ in Millions)

NCIAL PLAN: (TOA, \$ in Millio	ins)																					
	Prior	Years	FY 2	2002	FY:	2003	FY:	2004	FY 2	2005	FY:	2006	FY:	2007	FY 2	2008	FY:	2009	To Co	mplete		otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment	36	39.4																				
ASPJ Equip	100	4.8																				
Installation Equipment N/R																						
Racks		0.9																				
Engineering Change Orders				1.9																		
Data																						
Training Equipment																						
Support Equipment																						
ILS		0.5																				
Other Support		0.5																				
Interim Contractor Support																						
Installation Cost																						
Total Procurement		46.0		1.9																		

Notes

1. Totals may not add due to rounding

Individual Modification

MODIFICATION TITLE: AN/ALR-67(V)3&4 Radar Receiving Set (OSIP 026-99)

MODELS OF SYSTEMS AFFECTED: F/A-18 TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: DESCRIPTION/JUSTIFICATION: This Operational, Safety and Improvement Program (OSIP) provides for the procurement of common equipment for the F/A-18. Provisions, i.e., airframe changes needed for he installation of this equipment, are budgeted separately.

The AN/ALR-67(V)3 is a radar warning receiver designed to enhance pilot situational awarness by providing accurate indentification, lethality and azimuth displays of hostile and friendly emitters. It also controls the electronic warfare (EW) data bus and interfaces with other EW systems, the onboard radar, airborne mission computer, and other weapons systems. The Radar Warning Receiver's (RWR) Operational Requirements Document (ORD) number is 360-88-94 dated 27 May 94. The total number of systems is 698 (150 F/A-18 C/Ds and 648 F/A-18 E/Fs).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ALR-67(V)3 system is in the Production Fielding/Deployment and Operational Support Phase. The system received Milestone III approval in July 99 and awarded a full rate production contract option in August 99. OPEVAL was successfully completed in Feb 99. Production delivery commenced July 2000. The FY03 funding will be used to fund efforts on the obsolete processor replacement and to address other obsolete parts issues.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY:	2002	FY 2	2003	FY:	2004	FY 2	2005	FY:	2006	FY 2	2007	FY 2	2008	FY 2	2009	To C	omplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		190.4																				
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment																						
AN/ALR-67(V)3 Equip	17	23.8																				
Install Equip Processor Replacem																						
Install Equip N/R (Engineering)		0.7																				
Engineering Change Orders		0.4				0.3																
Equip ECO																						
Data																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		19.8		4.0		3.2																
Interim Contractor Support																						
Installation Cost																						
Total Procurement		44.7		4.0		3.4																

Notes:

1. Totals may not add due to rounding

P-1 SHOPPING LIST
DD Form 2454, JUN 86

CLASSIFICATION: UNCLASSIFIED

MODIFICATION TITLE: AN/ALE-47 Dispenser System Retrofit (OSIP 06-00)

MODELS OF SYSTEMS AFFECTED: F-14B/D(114), CH-53E(157),EA-6B(3), AH-1W (82) TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The replacement of the AN/ALE-39 Dispenser System with the AN/ALE-47 Dispenser System will correct some serious safety problems while at the same time greatly improve aircraft survivability. The AN/ALE-39 system has serious problems with Things Falling Off Aircraft (TFOA) as well as numerous occurrences of uncommanded firing of chalff and flare stores. The reliability of the ALE-39 is another major factor with continuous reports of hung or unfired stores, a serious ground safety concern as well as a serious aircraft survivability concern. The AN/ALE-47 System has been developed to correct the safety issues of the ALE-39. USD(Acq) memo of Nov 86 directed U.S. Navy and U.S. Army to participate in EMD phase. Air Force Statement of Operational Requirements Document (SORD) number 341.88-11-D of 8 July 92. OSIP 06-00 has been cancelled beginning FY04. This submittal respresents a reduction of installs from 1103 aircraft down to 356 aircraft. And includes procurement of 1000 ALE-39 replacement Sequencer Switches for installation on ALE-39 equipped aircraft which will not be receiving ALE-47 under the previous OSIP 06-00 plan.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ALE-47 System is in production and being installed in multiple U.S. Navy and Marine aircraft. MS III decision awarded Mar 93. FY 00 systems to be procured under Air Force contract F33657-96-D-0001. FY 01-03 systems to be procured under follow on ID/IQ contract.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY:	2005	FY 2	2006	FY:	2007	FY 2	2008	FY 2	2009	To Co	mplete	1	Γotal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
TACAIR/Helos Kit	186	0.5	88	0.4	82	0.4																
1	-	0.0		0.3		0.6																
Installation Kits N/R	1	0.9		0.3		0.6																
Installation Equipment TACAIR/Helos	186	6.8	88	2.8	82	2.3																
	100	0.0	500	1.1																		
ALE-39 Sequencer Switches			500	1.1	417	0.9																
Installation Equipment N/R																						
Engineering Change Orders				0.3		0.2																
Data																						
Training Equipment		0.8		0.5		0.4																
Support Equipment		0.7		0.3		0.3																
ILS		0.2		0.1		0.1																
Other Support		2.3		1.3		1.5																
Interim Contractor Support																						
Installation Cost																						
TACAIR/Helos	102	0.3	156	1.1	98	0.5																
Total Procurement		12.7		8.3		7.2																

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-	3a			TACAIR	/Helo Ext	nibit																		
MODELS	OF SYSTEM	IS AFFEC	TED:	F-14B/D	D(114), CI	H-53E(15	57),EA-6E	(3), AH-	1W (82)	MOD	IFICATIO	N TITLE:	AN/ALE-4	7 Dispens	er System	Retrofit (OSIP 06-00	0)						
NSTALLA	TION INFOR	RMATION	I	Helos (C		H-53E, M	ИН-53E)											,			A-18C/D) as indica			
METHOD	OF IMPLEM	ENTATIO	N:	ALE-47	Installatio	n via airo	raft mod	team as	establish	ed with e	ach platfo	orm progr	am office											
ADMINIST	RATIVE LEA	ADTIME:	_		3		Months	·			PRODU	CTION L	EADTIME	:			9	Months	<u>.</u>					
CONTRAC	CT DATES:		F	Y 2002:		De	c-01		_		FY 2003:		Dec	-02		_		FY 2004:					_	
DELIVER	/ DATE:		F	Y 2002:		Sep	o-02		_		FY 2003:		Sep	-03		_		FY 2004:					_	
												(\$ in M	illions)											
	Cost:		Prior \	ears/	FY 2	2002	FY 2	2003	FY	2004	FY	2005	FY 2	2006	FY:	2007	FY:	2008	FY:	2009	To Co	mplete	Т	OTAL
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 200	01 & PY (186	S) kits	102	0.3	84	1.1																		
FY 200	02 () kits				72		16	0.5																
FY 200	03 () kits						82																	
	04 () kits																							
	05 () kits																							
	06 () kits																							
	07 () kits																							
	08 () kits																							
	09 () kits		1																		-	ļ	-	
	mplete () kit	S																						
TOTAL			102	0.3	156	1.1	98	0.5																
Installat	ion Schedule	e								T								T				7		
	FY 2001		FY 20					2003				2004		_		2005				2006	Τ 4	-		
I	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1		
In Out	102 102		1		156 156	21 21	22 22	23 23	32 32		1	1			-				1		1	1		
Out	102		1		156	21	22	23	32		1	1	l		l	l .	l .		1	1	1	J		
		EV. 0	1007		r	E) (.	2000		ī	E\(.	2000		Г -		r		1							
	—	FY 2	3	4	-	2	2008	4	- 1	2 FY	2009	4	Com			TAL								
	1		3	4	1		3	4	7		3	4	Com	piete			1							
In Out			1			<u> </u>	<u> </u>				<u> </u>	<u> </u>				56	1							
Out		1	1								<u> </u>	<u> </u>			3	56								

CLASSIFICATION: UNCLASSIFIED

xhibit P-3a	Individual Modification

MODIFICATION TITLE: Integrated Defensive Electronic Countermeasures (IDECM), Radio Frequency Countermeasures (RFCM) OSIP 007-03

MODELS OF SYSTEMS AFFECTED: F/A-18 TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The RFCM subsystem consists of a technique generator and fiber optic towed decoy, which integrates with a Radar Warning Receiver (RWR), countermeasures dispensing set (CMDS), and associated cockpit controls and displays to provide the lead aircraft (F/A-18E/F) with increased survivability against Radio Requency (RF) threats. The Operational Requirements Document number is 494-88-98. The number of systems is 424 plus spares for the F/A-18E/F. This Operational Safety Improvement Program (OSIP) procures RFCM for retrofit into F/A-18E/F aircraft. FY03 includes funding for ALR-67V3 integration, ORD 360-88-94.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The IDECM RFCM program is currently in E&MD. MS 0,I, II approval was granted 26 October 1995. The IDECM RFCM subsystem completed an OA in the second quarter of FY00 leading to an NPR, LRIPI 1Q FY01 and LRIPII 1Q FY02. The IDECM RFCM IB2 full rate production approval is scheduled for 4Q FY03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY:	2003	FY:	2004	FY	2005	F١	2006	FY 2	2007	FY:	2008	FY	2009	To C	omplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		361.6		28.1		13.1		13.6														
PROCUREMENT																						
Installation Kits																						
Installation Kits N/R																						
Installation Equipment							3	7.8	13	34.0												
Installation Equipment N/R								3.4		1.3												
Engineering Change Orders																						
Kit ECO																						
Equip ECO						0.8																
Data								0.4		0.6												
Training Equipment																						
Support Equipment																						
ILS								0.0		0.0												
Other Support						3.6		0.5		0.5												
Interim Contractor Support																						
Installation Cost																						
Total Procurement						4.3		12.0		36.5					1	1					1	1

Notes: 1. Totals may not add due to rounding

P-1 SHOPPING LIST
ITEM NO. 52 PAGE NO. 10

CLASSIFICATION: UNCLASSIFIED

Exhibit P-40, BUDGET ITEN	JUSTIFICATION								DATE:					
										Februa	ry 2003			
APPROPRIATION/BUDGET ACTIVATION Aircraft Procurement, Navy/A							P-1 ITEM NOMEN	CLATURE		Common Avionics				
Program Element for Code B Items 0204161N							Other Related	Program Elem	ents					
	Prior	ID									To			
	Years	Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	Total		
QTY		A												
COST (In Millions)	737.5	A	67.9	61.8	148.6	169.4	227.8	202.9	183.6	174.6	984.2	2,958.3		

This line item funds common avionics equipment for multiple aircraft. With the exception of OSIPs 43-94 (Flight Data Recorders), 14-97 (KC-130T GPWS), 17-98 (Helo GPWS), and 24-99 (CAS), the individual aircraft platforms fund the "A" kits and installation in the appropriate aircraft line

The specific modifications budgeted and programmed are: (1) The NAVSTAR GPS (Global Positioning System) is designed to provide a highly accurate passive position (16 meters) velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. The GPS will interface with communication, navigation, and weapon systems equipment (standard attitude heading reference systems, inertial navigation systems, on-board computers, etc.) in selected applications. GPS is a DoD mandated requirement for all aircraft operating in the National Air Space Systems after the year 2000. (2) The AN/ARC-210 Electronic Protection (EP) Combination Radio provides dual UHF capability for CV based TACAIR; VHF AM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities. The AN/ARC-210 can be controlled by either a remote control unit or via MIL-STD-1553 multiplex data bus. (3) The Crash Survivable Flight Incident Recorder (CSFIR) is a crash hardened recorder which will be used in support of aircraft mishap and incident investigations. (4) The Embedded Global Positioning System/Inertial Navigation System (EGI) contains full Precise Position Service GPS on a single electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. (5) The AN/ARC- 182 Reuse Programs utilizes previously procured AN/ARC-182 systems which will become available as the AN/ARC-210 system is retrofitted into Navy aircraft. (6) The Ground Proximity Warning System (GPWS) provides visual and aural warnings to the pilot when the aircraft is in conditions that could result in a controlled flight into terrain accident. (7) The Traffic Alert & Collision Avoidance System (TCAS) will provide a display of situation awareness to aid in the prevention of mid-air mishaps. (8) The Advanced Mission Computer and Display (AMC&D) system will replace existing aging/obsolete and performance limited AN/AYK-14(V) Mission Computer and Contractor Furnished Equipment Displays. (9) The Tactical Air Moving Map Capability (TAMMAC), the common solution for US Naval Aviation, provides a common factical aircraft moving map and data loading capability and replaces current obsolete Fleet equipment. (10) Communication Navigation Surveillance/ Air Traffic Management (CNS/ATM) provides civil upgrades to communications, navigation, and surveillance systems enabling shift from Air Traffic Control to Air Traffic Management in increasingly congested airspace and frequency spectrum. (11) HH-60 H A/A24G-39 AHRS Reliability Improvement Program. (12) Aircrew Wireless Intercom Communications System (AWICS) will provide a wireless, spread spectrum intercom system to allow for unimped movement throughout the aircraft and prevent aircrew/passenger entanglement with intercom system cords in the event of mishap. (13) Attitude Gyro Upgrade replaces obsolete gyros with a more reliable and, maintainable gyro. The overall goal of the modifications budgeted in FY 2004 is to procure the common equipment required for the individual aircraft platforms. The specific modifications budgeted and programmed are:

(TOA.	Š	in	Millions

OSIP											To	
No.	Description	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Complete	<u>Total</u>
71-88	NAVSTAR GPS (Hardware)	275.123	6.985	4.443			18.114	22.372	22.770	23.157	219.409	592.373
04-94	AN/ARC-210 (Hardware)	213.000	8.962	7.497	27.170	23.867	9.943	1.495				291.934
43-94	Crash Survivable Flight Incident Recorders (CSFIR)	69.173	6.568	5.940	4.229	3.744	1.514					91.168
38-95	EGI (Hardware)	67.687	1.424									69.111
40-95	AN/ARC-182 Reuse Program	2.073	0.170	0.209	0.138							2.590
14-97	GPWS (CAT I) Fixed Wing	32.641	5.828	12.825	18.466	0.805	12.725	8.868	5.593	4.207	19.977	121.935
17-98	GPWS (CAT III) Rotary Wing	41.752	11.664	10.244	9.348	3.012	1.142	0.122			1.562	78.846
25-98	Traffic Alert & Collision Avoidance System (TCAS)	35.188	7.147	5.199	5.974	3.334	5.217	4.397	5.435	2.265	2.548	76.704
21-01	CNS/ATM	0.847		0.544	23.039	71.478	85.760	81.432	70.026	82.501	595.290	1,010.917
02-02	Tactical Air Moving Map Capability (TAMMAC)		0.998	3.364	17.217	15.151	16.170	18.079	15.186	6.476	4.420	97.061
01-02	AMC&D/MPCD		18.153	11.509	35.438	23.691	56.124	44.893	46.253	49.424	132.182	417.667
07-04	Attitude Gyro Upgrade				4.432	15.182	12.536	12.787	13.382	1.824		60.143
08-04	HH-60 AHRS Reliability & Improvement (CREI)				0.988	0.668						1.656
09-04	Aircrew Wireless Internal Communications System (AWICS)				2.188	8.507	8.510	8.471	4.945	4.742	8.814	46.177
	Total	737.484	67.899	61.774	148.627	169.439	227.755	202.916	183.590	174.596	984.202	2,958.282
1												

Note: Totals may not add due to rounding.

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 53 PAGE NO. 1

Exhibit P-3a		Individual Modification			
MODIFICATION TITLE:	Global Positioning System (GPS) (OSIP 71-88)				
MODELS OF SYSTEMS AFFECTED:	All aircraft		TYPE MODIFICATION:	Common Avionics (Safety) (Added Canability)	

DESCRIPTION/JUSTIFICATION: The NAVSTAR GPS is designed to provide highly accurate passive position (16 meters), velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. GPS will be integrated with communication, navigation, and weapon systems equipment (attitude heading reference systems, inertial navigation systems, mission computers, etc.). This OSIP procures the GPS B-kit equipment (receivers, antennas, amplifiers, CDNU, DDS, SDC, etc.) as required for the above platforms. Hardware configuration varies depending on the TMS of the aircraft. Approximately 2500 aircraft will be modified with equipment provided through this OSIP. The Global Positioning System Operational Requirement Document (ORD) 003-78 dated 22 Jan 90 was based on an Air Force General Operating Requirement (GOR) dated 28 Jan 1978. The Navy ORD for Enhanced GPS User Equipment for Navigation Warfare and GPS Modernization was approved on 7 June 2000.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program completed Phase II (Full Scale Engineering Development) and completed Milestone IIIA (Approval for Limited Production) in June 1986. Milestone IIIB (Approval for Full Production) was completed in January 1992. Research, Development, Test and Evaluation, Navy (RDT&E,N) is funded under program element #0604777N.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY	2004	FY:	2005	FY:	2006	FY 2	2007	FY:	2008	FY:	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
NAVWAR	25	0.6	59	0.6	45	0.7																
Installation Kits N/R																						
Installation Equipment																						
GPS	2,047	173.8																				
NAVWAR	45	2.1	84	2.6																		
Installation Equipment N/R		17.8		0.2																		
Engineering Change Orders		0.1		0.2		*																
Data		7.7		0.1		*																
Training Equipment																						
GPS	114	7.8																				
NAVWAR			1	0.1		*																
Support Equipment		0.3																				
ILS				0.1		0.2																
Other Support		64.9		2.9		2.3																
Interim Contractor Support																						<u> </u>
Installation Cost																						
NAVWAR			25	0.3	104	1.2																
Total Procurement		275.1		7.0		4.4																

- 1. Totals may not add due to rounding.
- 2. Asterisk indicates amount less than \$50K.

Exhibit P-3a																								
MODELS OF S	YSTEMS	AFFECT	ΓED:	All aircra	aft					-	MODI	FICATIO	N TITLE:	Global I	Positionin	g Systen	n (GPS) (OSIP 71-	·88)					
NSTALLATION	N INFORM	IATION:																						
METHOD OF II	MPLEMEN	OITATIO	N:	Equipme	ent is prov	vided to t	the platfor	m PMA a	and instal	lled as per	airframe	ECP/AF	C.											
ADMINISTRAT	IVE LEAD	TIME:			Three to S	Six Month	ns				PRODU	CTION L	EADTIMI	Ξ:		Six to Twe	elve Mont	ns	_					
CONTRACT DA	ATES:		FY 2002:		Ма	r-02			FY 2003:		Oct	-02		_	FY 2004:					_	FY 2005:			
DELIVERY DA	ΓE:		FY 2002:		Oc	t-02			FY 2003:		Apr	-03		-	FY 2004:					_	FY 2005:			
												(\$ in	Millions)											
	Cost:		Prior	Years	FY 2	2002	FY 2	2003	FY	2004	FY 2	2005	FY:	2006	FY	2007	FY 2	2008	FY	2009	To Co	mplete	TO	TAL
NAVV	VAR Instal	ls	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
FY 2001 &	PY (25) ki	ts			25	0.3																		
FY 2002 (5	9) kits						59	0.8																
FY 2003 (4	5) kits						45	0.4																
FY 2004 ()	kits																							
FY 2005 ()	kits																							
FY 2006 ()																								
FY 2007 ()	kits																							
FY 2008 ()	kits																							
FY 2009 ()																								
To Comple	te () kits																							
TOTAL					25	0.3	104	1.2																
Installation S	Schedule (NAVWA	ıR)																					
	FY 2001		FY:	2002			FY 2	2003			FY 2	004			FY	2005			FY	2006				
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In				12	13	26	26	26	26															
Out				12	13	26	26	26	26															
																	_					•		
		FY	2007			FY:	2008			FY 2	2009		1	ō										
	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TC	TAL]							
In													1,	771	1,	900	1							
				1		1	1				1			771		900	1							

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 04-94)

MODELS OF SYSTEMS AFFECTED: AH-1W, AV-8B, C-2, CH-46E, C/MH-53D/E, EA-6B, KC-130F/R/T, F/A-18C/D, UH-1N, C-130, HH-60 TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF AM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can consist of word-of-the-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. Engineering Change Proposal (ECP) 12 incorporated embedded Demanded Demanded Demanded COMSEC, embedded Variable Message Format (VMF). Link 4A, and is compatible with the memory loader verifier. ORD # 333-06-93 dated 4/20/93 validated this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ARC-210 Common OSIP provides B-kits and common logistics requirements to multiple aircraft. Individual platform OSIPs include non-recurring engineering, integration, A-kit manufacturing and unique aircraft logistic requirements. Full rate Production Decision was approved in May 1994. Incorporation of these hardware mods will be accomplished via an ECP to the production receiver/transmitters configuration. Corresponding platform OSIP numbers; C-2A OSIP 24-94; AH-1W OSIP 3-93; AV-8B OSIP 23-93; CH-46E OSIP 9-92; EA-6B OSIP 42-93; F/A-18C/D OSIP 39-92 and 10-99; K/C-130F/R/T OSIP 2-92; UH-1N OSIP 15-92; CH/MH-53D/E OSIP 11-92.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY:	2004	FY	2005	FY	2006	FY 2	2007	FY 2	2008	FY2	2009	To Co	mplete	Т	Γotal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AN/ARC-210 Kit							28	2.6	50	1.6												
Installation Kits N/R								3.1		1.5												
Installation Equipment																						
AN/ARC-210 Equip	2,600	153.1	61	5.3	34	3.4	236	16.7	193	14.2												
Installation Equipment N/R		4.5		0.1		0.1		0.1		0.8												
Engineering Change Orders		8.0																				
Data		3.8		0.1		0.2		0.2		0.3												
Training Equipment	36	2.8		0.1		0.1		*		0.1												
Support Equipment		9.3		0.1		0.1		0.2		0.2												
ILS		8.8		0.6		0.8		0.7		0.9												
Other Support		22.8		2.6		2.8		3.5		3.8												
Interim Contractor Support																						
Installation Cost									7	0.6												
Total Procurement		213.0		9.0		7.5		27.2		23.9												

- 1. Totals may not add due to rounding 3. A-Kits and ACI Kits for F/A-18C/D being procured in FY 05. Installs are reflected in F/A-18 OSIP #10-99.
- 2. Asterisk indicates amount less than \$50K 4. A kits in FY04-07 are for KC-130. F/A-18C/D, HH-60

METHOD OF IMPLEMENTATION: Prime Contractor ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 12 Months CONTRACT DATES: FY 2002: FY 2003: FY 2004: Mar-04 FY 2005: Mar-05	Exhibit P-3a																									
ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 12 Months CONTRACT DATES: FY 2002: FY 2003: FY 2004: Mar-04 FY 2005: Mar-05 DELIVERY DATE: FY 2002: FY 2003: FY 2003: FY 2004: FP 2006: FY 2006:	MODELS C	F SYSTEM	IS AFFEC	TED:		HH-60						MOD	DIFICATIO	N TITLE:	AN/ARC-	210 Electr	onic Prote	ection (EP)	Combina	tion Radio	(OSIP 04	1-94)				
ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 12 Months CONTRACT DATES: FY 2002: FY 2003: FY 2004: Mar-04 FY 2005: Mar-05 DELIVERY DATE: FY 2002: FY 2003: FY 2003: FY 2004: FP 2006: FY 2006:	INSTALLAT	ION INFOR	RMATION	:																						
FY 2002 FY 2002 FY 2003 FY 2004 Mar-04 FY 2005 Mar-05	METHOD (F IMPLEM	ENTATIO	N:	Prime Contra	actor																				
FY 2002 FY 2003 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Complete TOTAL	ADMINISTI	RATIVE LEA	ADTIME:				5	Months	<u>-</u>			PRODU	CTION LE	ADTIME	:			12	Months	_						
Cost	CONTRAC	T DATES:		FY 2002:					_		FY 2003:	:				_		FY 2004:		Mar-04		_		FY 2005:		Mar-05
Cost:	DELIVERY	DATE:		FY 2002:					_		FY 2003:	:				_		FY 2004:		Feb-05		_		FY 2005:		Feb-06
FY 2001 & PY () kits													(\$ in I	Millions)												_
FY 2001 & PY () kits		Cost:		Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	T	OTAL	
FY 2002 () kits				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2004 () kits			its																							
FY 2005 () kits**		. ,																								
FY 2005 () kits																										
FY 2006 () kits FY 2007 () kits FY 2008 () kits FY 2008 () kits FY 2008 () kits FY 2009 () kits To Complete () kits To TOTAL *Note: KC-130 OSIP 02-92 includes the procurement of trainers in FY04 (1) and FY05 (3) Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3		. ,										7	0.6													
FY 2007 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2009 () kits FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 8 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 3 4	FY 200	5 () kits**																								
FY 2008 () kits FY 2009 () kits To Complete () kits TOTAL *Note: KC-130 OSIP 02-92 includes the procurement of trainers in FY04 (1) and FY05 (3) Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 & Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 3 4 1 1 2	FY 200	6 () kits																								
FY 2009 () kits To Complete (. ,																								
To Complete () kits		. ,																								
*Note: KC-130 OSIP 02-92 includes the procurement of trainers in FY04 (1) and FY05 (3) Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 2 3 3 4 1 1 2		. ,																								
*Note: KC-130 OSIP 02-92 includes the procurement of trainers in FY04 (1) and FY05 (3) Installation Schedule FY 2001 FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2006 FY 2007 FY 2007 FY 2007 FY 2008 FY 2007 FY 2008 FY 2009 TO TOTAL In FY 2007 FY 2008 FY 2009 TO TOTAL In FY 2007 FY 2008 FY 2009 TO TOTAL In FY 2007 FY 2008 FY 2009 TO TOTAL In FY 2007 FY 2008 FY 2009 TO TOTAL	To Com	plete () kits	S																							
FY 2001	TOTAL											7	0.6													
& Prior 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 3 1 1 3 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 3 3 1 1 </td <td></td> <td></td> <td></td> <td>cludes the</td> <td>e procurem</td> <td>ent of trai</td> <td>iners in F</td> <td>FY04 (1) a</td> <td>and FY05</td> <td>(3)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				cludes the	e procurem	ent of trai	iners in F	FY04 (1) a	and FY05	(3)																
In								1				1	1	1		1	1	1		1	1					
Out 1 3 3 FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 Complete TOTAL In 32 39		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	+	-	1	2	3	4	1			
FY 2007 FY 2008 FY 2009 To 1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 32 39																1										
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 32 39	Out															1	3	3					<u> </u>			
1 2 3 4 1 2 3 4 1 2 3 4 Complete TOTAL In 32 39		-																-								
In 32 39				1	1		1	1	1					1												
		1	2	3	4	1	2	3	4	1	2	3	4			 		4								
Out 32 39	_			1		1						1				1		1								
	Out													;	32		39	J								

Exhibit P-3a	Individual Modification
XNIDIT P-3a	Individual Modification

MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)

MODELS OF SYSTEMS AFFECTED: AV-8B, F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-3, UH-3 TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: Chief of Naval Operations letter, Ser N8/5U640779 of 2 May 1995, directed the CSFIR implementation policy on Naval Aircraft. This modification will provide procurement and integrated logistics support of Navy common CSFIR and will include addressing obsolescence of commercial components. The CSFIR will be a crash hardened recorder of selective aircraft systems and position parameters to be used in support of aircraft mishap and incident investigations. RDC01-88-97 validate this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Commercial off-the-shelf and non-developmental systems will be procured to the maximum extent feasible via open competition. Completed F/A-18 val/ver in 3rd quarter FY00. F/A-18 installations delayed due to war-time efforts; schedule extended out into FY06.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY 2	2005	FY	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	Tc	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CSFIR Kit	282	11.6	60	0.2	23	0.1	43	0.5	38	0.1												
Installation Kits N/R	12	20.6			1	1.7		*														
Installation Equipment																						
CSFIR Equip	299	7.1	60	1.2	24	0.5	43	0.8	38	0.7												
Installation Equipment N/R		3.6		0.6		0.3																
Engineering Change Orders																						
Data		1.2				0.1		0.3														
Training Equipment	2	0.4						*		*												
Support Equipment		3.0		0.2		0.1		0.1														
ILS		2.3		0.4		0.4		0.2		0.3												
Other Support		11.8		3.2		2.1		1.7		1.8												
Interim Contractor Support																						
Installation Cost	199	7.567	54	0.8	50	0.8	51	0.8	53	0.8												
Total Procurement		69.2		6.6		5.9		4.2		3.7												

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

xhibit P-3a				E/A 10 \/	T 3D/60r	J C/T 43	00 0 2 0	10 T 20																	
ODELS OF	SYSTEM	S AFFEC		F/A-18, V U/VP-3, L		N, C/1-13	30, C-2, C	-12, 1-39	, 		MODII	FICATIO	N TITLE:	Crash Su	ırvivable Fl	ight Incide	ent Record	ders (CSF	IR) (OSIF	P 43-94)					
NSTALLATI	ON INFOR	MATION:																							
ETHOD O	F IMPLEM	OITATIO	N:	Contractor	or USN F	ield Modif	ication Tea	ım																	
OMINISTR	ATIVE LEA	ADTIME:	•		2	2	Months				PRODU	CTION L	EADTIM	≣:		1	2	Months							
ONTRACT	DATES:	F	FY 2002:		May-02				F	Y 2003:		Nov-02			-	ı	FY 2004:		Nov-03			ı	FY 2005:		Nov-04
ELIVERY [DATE:	i	FY 2002:		May-03				F	Y 2003:		Nov-03			-	ı	FY 2004:		Nov-04			ı	FY 2005:		Nov-05
			,										in Millio								•				7
 	Cost:			Years		2002	FY 2		FY 20		FY 2			2006	FY 2			2008		2009	To Co			TAL	-
EV 2004	& PY () kir	te	Qty 199	\$ 7.6	Qty 54	\$ 0.8	Qty 31	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	1
FY 2001		15	199	7.6	54	0.8	19	0.5 0.3	41	0.6															1
FY 2002							19	0.3	10	0.0	14	0.2													1
FY 2004											39	0.6													1
FY 2005																									
FY 2006																									
FY 2007																									-
FY 2008									-																-
FY 2009	() Kits olete () kits																								1
TOTAL	note () Kits	,	199	7.6	54	0.8	50	0.8	51	0.8	53	0.8													1
	n Schedule		FY 2	2002			FY:	2003			FY 2	2004			FY 2	100F			FV :	2006		I			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In	199	5	9	20	20	12	12	13	13	12	13	13	13	13	13	13	14								
Out	199	5	9	20	20	12	12	13	13	12	13	13	13	13	13	13	14								
	•								-												•	ı			
		FY 2	007				2008			FY 2			1	0											
_	1	2	3	4	1	2	3	4	1	2	3	4	Com	plete	TO	ΓAL									
In														12	44										
Out			1			i	1		1		l	l		2	44	ıa .									

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Embedded Global Positioning System / Inertial Navigation System (EGI) (OSIP 38-95)

MODELS OF SYSTEMS AFFECTED: AH-1W, EA-6B, F/A-18A/B/C/D, F-14A/B TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: EGI is a Tri-Service program. EGI is a small, reliable, light weight unit which contains full Precise Position Service GPS on a single standard electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. A single EGI unit replaces both on inertial system such as CAINS and a GPS receiver such as the 3A or MAGR, reducing weight, volume and power consumption. EGI shall provide three navigation solutions: GPS only navigation solution, inertial navigation solution, and a blended GPS / INS navigation solution. the blended solution shall not degrade the GPS only solution, nor shall the EGI performance be degraded below the inertial only performance. ORD # 401-88-95 dated 25 May 95 validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: EGI is a non-developmental item. Milestone III was approved in March 1994.

FINANCIAL PLAN: (TOA, \$ in Millions)

2. Asterisk indicates amount less than \$50K

	Prior	Years	FY	2002	FY:	2003	FY	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
EGI Kit																						
Installation Kits N/R																						
Installation Equipment																						
EGI Equip	667	44.1																				
Installation Equipment N/R		1.5																				
Engineering Change Orders		4.1																				
Data		1.2		0.1																		
Training Equipment	4	0.2																				
Support Equipment																						
ILS		3.7		0.2																		
Other Support		12.9		1.1																		
Interim Contractor Support																						
Installation Cost																						
Total Procurement		67.7		1.4																		

Notes

1. Totals may not add due to rounding 3. FY 98 through FY 01 include EA-6B quantity

3. FY 98 through FY 01 include EA-6B quantity requirements. Kits were previously procured as F/A-18 assets. FY02

& FY 03 are F/A-18 previously purchased assets only to be used on EA-6Bs.

Exhibit P-3a Individual Modification

MODIFICATION TITLE: AN/ARC-182 Reuse Modification Program (OSIP 40-95)

MODELS OF SYSTEMS AFFECTED: P-3C, S-3B, SH-2G TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: The AN/ARC-182 Modification Program will utilize previously procured AN/ARC-182 systems which will become available as the AN/ARC-210 system is retrofitted into Navy aircraft. The replaced AN/ARC-182 will be upgraded to meet the configuration needs of current AN/ARC-182 users vice procurement of a new system. The AN/ARC-182 modification will include receiver-transmitter and remote control units. Mounts, filters, switching units, and antennas will be procured by the platform OSIP to complete the aircraft AN/ARC-182 configuration requirements. ORD # W0661-CC dated 13 June 78, validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: AN/ARC-182 is in production. Modified systems will be provided GFE to user platforms to meet aircraft installation requirements.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY 2	2003	FY 2	2004	FY:	2005	FY:	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AN/ARC-182 Kit	132	0.5	22	0.1	26	0.1	35	0.1														
Installation Kits N/R																						
Installation Equipment																						
AN/ARC-182 Equip																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		0.2																				
Training Equipment																						
Support Equipment																						
ILS																						
Other Support		1.4		0.1		0.1		0.0														
Interim Contractor Support													<u> </u>		<u> </u>							
Installation Cost																						
Total Procurement		2.1		0.2		0.2		0.1														

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT I) Fixed Wing (OSIP 14-97)

MODELS OF SYSTEMS AFFECTED: KC-130T/F/R, VP-3, C-2A, S-3, UP-3, EA-6B, T-45 TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: The Ground Proximity Warning System (GPWS) is a low-cost, highly reliable stand-alone commercial set built to provide reliable integration of on-board sensor data and provides an aural warning for excessive descent rate, terrain closure rate, inadvertent descent below glideslope and descent below minimum. Commercial GPWS implementation has shown a demonstrated dramatic reduction in controlled flight into terrain incidents. ECP-130-108 increases system safety by eliminating known deficiencies and applies to military application during normal and low level mission requirements. ORD # 555-88-00 signed 1 May 00 validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: GPWS CAT-I OPEVAL (P-3C) was successfully completed October 1993. USAF retrofitting all C-130 T/M/S with same unit as part of Autopilot Upgrade Program. USAF OPEVAL in C-130.

FINANCIAL PLAN: (TOA, \$ in Millions)

INANCIAL FLAN. (TOA, \$ IITN	Prior `	Years	FY:	2002	FY 2	2003	FY 2	2004	FY:	2005	FY	2006	FY:	2007	FY:	2008	FY:	2009	To Co	mplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPWS CAT I Kit	133	1.7	12	0.3	24	0.3	57	0.5														
Installation Kits N/R	1	7.0		0.9		1.0		1.5														
Installation Equipment																						
GPWS CAT I Equip	133	7.0	12	0.8	24	1.3	57	3.2														
Installation Equipment N/R		0.5		0.5		0.2		0.4														
Engineering Change Orders																						
Data		0.7		0.1		0.1		0.6														
Training Equipment	3	1.2		0.1		0.1		0.9														
Support Equipment																						
ILS		1.2		0.3		0.7		1.1														
Other Support		11.0		2.6		8.2		9.7		0.8												
Interim Contractor Support																						
Installation Cost	104	2.4	11	0.3	32	0.9	24	0.5														
Total Procurement		32.6		5.8		12.8		18.5		0.8												

^{1.} Totals may not add due to rounding

^{3.} Installation qty differ from Install kits/equipment due to installation of OFT trainers listed in training material.

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-3a																									
MODELS OF	SYSTEM	IS AFFEC	CTED:	KC-130	Γ/F/R, VP	-3, C-2A	S-3, UP-	3, EA-6E	3, T-45	-	MODI	FICATIO	N TITLE:	Ground F	Proximity V	Varning S	ystem (GP	WS CAT I) Fixed W	ing (OSIP	14-97)				
NSTALLATI	ON INFOR	RMATION	1 :																						
METHOD OF	- IMPLEM	ENTATIO	DN:	Contracto	or or USN I	Field Mod	ification Te	eam																	
ADMINISTRA	ATIVE LEA	ADTIME:			4	1	Months				PRODU	CTION L	EADTIME	≣:			10	Months	•						
CONTRACT	DATES:		FY 2002:		Feb-02					FY 2003:		Feb-03			-		FY 2004:		Feb-04				FY 2005:		Feb-05
DELIVERY D	DATE:		FY 2002:		Dec-02					FY 2003:		Dec-03			-		FY 2004:		Dec-04				FY 2005:		Dec-05
													(\$ in N	fillions)											_
	Cost:		Prior	Years	FY 2	2002	FY 2	2003	FY:	2004	FY 2	2005	FY	2006	FY:	2007	FY 2	2008	FY 2	2009	To Co	mplete	Т	OTAL]
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	4
	& PY () k	its	104	2.4	11	0.3	20	0.6																	
FY 2002							12	0.3																	4
FY 2003			+						24	0.5													.		4
FY 2004			-																				-		
FY 2005			+																				<u> </u>		4
FY 2006			1	-																			ł		-
FY 2007 FY 2008																							 		1
FY 2009			+																						
	olete () kits	2	1																				1		1
TOTAL	note () kitt	,	104	2.4	11	0.3	32	0.9	24	0.5															1
Installation		е												ı								1			_
	FY 2001 & Prior		FY 2	3	4	4	FY 2	2003	4	1	FY 2	2004	4	1	FY :	2005	4		FY 2	2006	4				
In		2	3	3	3	1		8	8	6	6	6		<u> </u>		<u> </u>	4	1		J	4				
In Out	104 104	2	3	3	3	8	8	8	8	6	6	6	6												
Jui	104		,		3	U	U	U	U	U	U	U	U			l					1				
J		FY 2	2007			FY f	2008			FY 2	2009		1	ō			1								
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO	TAL									
In			 	 								<u> </u>		84		55	1								
Out														84		55	1								
					B			1			1			-											

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT III) Rotary Wing (OSIP 17-98)

MODELS OF SYSTEMS AFFECTED: C/MH-53, H-46, H-60, UH-3 TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: The Ground Proximity Warning System (GPWS), is a low-cost, highly reliable stand-alone commercial set built to provide reliable integration of on-board sensor data and provides an aural warning for excessive rate of descent, terrain closure rate, inadvertent descent below ILS glidescope and descent below minimum. Commercial GPWS implementation has demonstrated dramatic reduction in controlled flight into terrain (CFIT) accidents. NADEP CP ECP H53-004 and H46-75 will assist pilots in preventing collisions with the ground or water. ORD # 555-88-00 signed 1 May 00 validates this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: GPWS CAT III completed Milestone II in July 1993. DT was fully successful in May 1996. OPEVAL was successfully completed in August 1996. Milestone III was completed in May 1997.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY	2003	FY	2004	FY 2	2005	FY:	2006	FY:	2007	FY:	2008	FY2	2009	To Co	mplete	Te	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
GPWS CAT III Kit	282	3.0	80	0.9	49	0.6	53	0.7														
Installation Kits N/R		1.3				0.8		0.4														
Installation Equipment																						
GPWS CAT III Equip **	283	13.0	80	3.4	49	3.2	53	2.4														
Installation Equipment N/R		7.4		2.5		0.1		0.3														
Engineering Change Orders																						
Data		1.0				0.4		0.2														
Training Equipment		1.3		0.1		0.1		0.3														
Support Equipment																						
ILS		1.0		0.2		0.3		0.5		0.3												
Other Support		10.7		3.1		3.4		3.8		1.8												
Interim Contractor Support																						
Installation Cost	201	3.1	81	1.3	80	1.4	49	0.9	53	1.0				·		·			·	·		
Total Procurement		41.8		11.7		10.2		9.3		3.0		,		,					•			

Notes:

1. Totals may not add due to rounding

3. Two Asterisks indicate that one additional B-Kit was procured for software integration laboratory use in FY98.

2. Asterisk indicates amount less than \$50K

Evhibit D 2a																									 	
Exhibit P-3a																										
MODELS O	F SYSTEM	S AFFEC	ΓED:	C/MH-53	, H-46, H	-60, UH-	3			<u>-</u>	MODI	FICATIO	N TITLE:	Ground P	roximity W	/arning Sy	stem (GP	WS CAT I	II) Rotary	Wing (OSI	P 17-98)				 	
INSTALLAT	ION INFOR	RMATION:																								
METHOD O	F IMPLEM	ENTATION	۸:	Contractor	or USN E	Depot Field	d Modificat	ion Team																	 	
ADMINISTR	ATIVE LEA	NDTIME:				4	Months	-			PRODU	CTION LI	EADTIME	≣:		1	10	Months								
CONTRACT	DATES:		FY 2002:		Feb-02			<u>-</u>		FY 2003:		Feb-03					FY 2004:		Feb-04			_	FY 2005:		 	_
DELIVERY	DATE:		FY 2002:		Dec-02			_		FY 2003:		Dec-03				1	FY 2004:		Dec-04			_	FY 2005:			_
l												/6	in Millio	nc)												
	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY 2	2007	FY 2	2008	FY:	2009	To Co	omplete	TO	TAL		
	0001.		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
FY 2001	& PY () ki	ts	201	3.1	81	1.3																				
FY 2002							80	1.4																		
FY 2003									49	0.9																
FY 2004											53	1.0														
FY 2005	.,																									
FY 2006																										
FY 2008																										
FY 2009																										
	plete () kits	;																								
TOTAL			201	3.1	81	1.3	80	1.4	49	0.9	53	1.0														
Installatio	n Schedule	;																				_				
	FY 2001	4	FY 2		· ·			2003	4		FY 2		<u> </u>		FY 2					2006	4	ł				
la	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1				
In Out	201 201	21 21	20 20	20 20	20 20	20 20	20 20	20 20	20 20	12 12	13 13	12 12	12 12	13 13	14 14	13 13	13 13					ł				
Out	201		20	20	20	20	20	20	20	12	10	12	12	13	17	10	10					1				
		FY 2	007			FY	2008			FY 20	009		1	Го			1									
	1	2	3	4	1	2	3	4	1	2	3	4		plete	TO	TAL										
In														8	47	72]									
Out														8	47	72										

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	Traffic Alert & Collision Avoidance System (TCAS) (OSIP 25-98)		
MODELS OF SYSTEMS AFFECTED:	C-2, C-130T, VP-3, KC-130, UP-3, UH-3	TYPE MODIFICATION:	Common Avionics Modification

DESCRIPTION/JUSTIFICATION: CNO memorandum of 09 Nov 1999 directed TCAS implementation policy on Naval Aircraft. This modification will provide procurement and logistics support of a common TCAS. The TCAS will provide a display of situation awareness to aid in the prevention of midair mishaps. An ECP was approved in FY 99 to incorporate this change.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: TCAS Off-The-Shelf processor was selected. The ECP NRE effort for C-2, VP-3, and C-130T/KC-130 was accelerated and began in FY 98. Milestone III approved March FY01.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior `	Years	FY:	2002	FY 2	2003	FY 2	2004	FY:	2005	FY	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	To	tal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
TCAS Kit	68	3.9	12	1.3	9	1.2	15	1.5	6	0.4												
Installation Kits N/R	1	6.8		0.6																		
Installation Equipment																						
TCAS Equip	69	7.5	12	1.5	9	1.5	15	2.7	6	1.1												
Installation Equipment N/R		2.7		0.1																		
Engineering Change Orders		1.6		0.2		0.2																
Data		1.6		0.2																		
Training Equipment	8	1.5		0.1		0.3																
Support Equipment																						
ILS		1.5		0.3		0.2																
Other Support		7.1		1.6		1.3		1.4		1.3												
Interim Contractor Support																						
Installation Cost	22	1.1	46	1.3	12	0.5	9	0.4	15	0.6												
Total Procurement		35.2		7.1		5.2		6.0		3.3												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

SYSTEMS	AFFECT	ED:	C-2, C-1	30T, VP-3	3, KC-130), UP-3, L	H-3		_	MOD	IFICATIO	N TITLE:	Traffic Ale	ert & Collisi	ion Avoida	ance Syster	m (TCAS)	(OSIP 25-	98)					
ON INFORM	MATION:																							
FIMPLEMEN	NTATION:	:	Contracto	or or USN F	ield Modif	ication Tea	am																	
ATIVE LEAD	OTIME:			:	2	Months	-			PRODUC	CTION LE	ADTIME:				12			Months	<u> </u>				
DATES:		FY 2002		Dec-01			-		FY 2003:		Dec-02			•		FY 2004:		Dec-03			=	FY 2005:		Dec-04
DATE:		FY 2002		Nov-02			-		FY 2003:		Dec-03					FY 2004:		Dec-04			_	FY 2005:		Dec-05
										1		(\$ in I	Millions)											-
Cost:		+	1	1												+					1	+		_
0.00(()1::		† 		i 		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	=
	· · · · · · · · · · · · · · · · · · ·	22	1.1	46	1.3	40	0.5																	-
.,						12	0.5		0.4															-
.,		1		1					0.4	15	0.6											1		-
.,										10	0.0													
() kits																								
() kits																								
.,																								
olete () kits																								
		22	1.1	46	1.3	12	0.5	9	0.4	15	0.6													
n Schedule							, 0.0						l		I	•	I		l				l	-
																				1	1			
	1			4	1	1		4	1			4	1	2	3	4	1	2	3	4	1			
22	11	11	12	12	3	3	3	3	3	2	2	2	3	4	4	4					Į.			
22	11	11	12	12	3	3	3	3	3	2	2	2	3	4	4	4		J			J			
	EV 20	007		T	ΓV	2000		ı	EV.	2000						1								
	FY 20		4	1	2 2	2008 3	4	1	FY 2	3	4		o plete	TO	TAL									
1	2								. 4		4	COII	ihiere	10	1 //L									
1	2	3	4	<u> </u>		3						,	36		40	1								
	ION INFORM F IMPLEMENT ATIVE LEAD DATES: DATE: Cost: & PY () kits & () ki	ION INFORMATION: F IMPLEMENTATION ATIVE LEADTIME: DATES: DATE: R PY () kits S () kits S () kits S () kits S () kits S () kits S () kits S () kits T ()	ION INFORMATION: F IMPLEMENTATION: ATIVE LEADTIME: DATES: FY 2002: Cost: Prior Qty A PY () kits 22 A () kits ()	Contract Contract Contract	Contractor or USN F Contractor or USN F CONTRACTOR	ION INFORMATION: F IMPLEMENTATION: Contractor or USN Field Modification of USN Field Modificat	Contractor or USN Field Modification Text Contractor or USN Fi	Contractor or USN Field Modification Team	ION INFORMATION: Contractor or USN Field Modification Team	ION INFORMATION: Contractor or USN Field Modification Team	Contractor or USN Field Modification Team	FIMPLEMENTATION: Contractor or USN Field Modification Team	Contractor or USN Field Modification Team	Contractor or USN Field Modification Team	Contractor or USN Field Modification Team	FIMPLEMENTATION:	FIMPLEMENTATION:	ION INFORMATION:	FIMPLEMENTATION:	ION INFORMATION: Contractor or USN Field Modification Team	ION INFORMATION: Contractor or USN Field Modification Team ATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 12 Months DATE: FY 2002: Dec-01 FY 2003: Dec-02 FY 2004: Dec-03 DATE: FY 2002: Nov-02 FY 2003: Dec-03 FY 2004 Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008 FY 2009 To Cotton Cost Dec-04 Cost: Prior Years FY 2002 FY 2003 FY 2004 FY 2006 FY 2007 FY 2008	CONTROMATION: Contractor or USN Field Modification Team	INTERMENTATION: Contractor or USN Field Modification Team ATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 12 Months PRODUCTION LEADTIME: 12 Months FY 2002: Dec-01 FY 2003: Dec-02 FY 2004: Dec-03 FY 2005. DATE: FY 2002: Nov-02 FY 2003: Dec-03 FY 2004: Dec-04 FY 2005. DATE: FY 2002: Nov-02 FY 2003: Dec-03 FY 2004 FY 2005. FY 2006 FY 2007 FY 2008 FY 2009 To Complete TO Compl	ION INFORMATION: FIMPLEMENTATION: Contractor or USN Field Modification Team

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Communication - Navigation - Surveillance / Air Traffic Management (CNS/ATM) Systems (OSIP 21-01)

P-3C, EP-3E, C/KC-130, C-2A, EA-6B, KC130J, VH-3D, VH-60N, F/A-18E/F, F/A-18C/D, E-2C, MH-60S, MH-60R, UH-3H, F/A-18A+, H-1,

MODELS OF SYSTEMS AFFECTED: CH-53E, AV-8B, TAV-8B, UP/VP-3A, NP-3C/D, MV-22B

TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

CNS/ATM provides new and enhanced Common Avionics equipment to comply with increasing ICAO (International Civil Aviation Organization) Standards and mandates. Areas impacted are worldwide, including transoceanic routes, as well as European and US National Air Space. Aircraft which are non-compliant with these standards and country mandates will be operationally delayed, circuitously rerouted, or denied access to controlled airspace. Some requirements are already in place (i.e. 8.33KHz VHF radio channels in Europe, Oct 99), while others are scheduled for implementation throughout the next several years (i.e.: RNP-4, 2003 to 2005).

Prioritization of platform type and quantity is based on mission and anticipated operation in affected airspace. Enhanced equipment includes Mode S, 8.33KHz VHF channel spacing, RNP-4 integrity, Protected Instrument Landing System (P-ILS), Mulit-Mode Receiver, and cockpit processing and display capability. FY01 Initiated an interim subprogram to provide near term capability to meet European mandates of 1 January 2001 for P-ILS via new start notification letter to Congress.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Begin Mode S integration into P-3C in 04. Achieve IOC by 07

Begin RNP-4 integration into EA-6B by 05 . Achieve IOC by 07

Begin Integration of 8.33 KHz VHF Radio into P-3C by 05 . Achieve IOC by 2007

FINANCIAL PLAN: (TOA, \$ in Millions)

(13),,	•	Years	FY 2	2002	FY 2	2003	FY:	2004	FΥ	2005	FY	2006	F۱	2007	FY	2008	FY:	2009	To	Complete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
CNS/ATM Kit									4	0.8												
Installation Kits N/R								8.5		27.5												
Installation Equipment																						<u> </u>
CNS/ATM Equip									4	2.3												
CNS/ATM P-ILS	132	0.7					83	1.0	82	1.0												
Installation Equipment N/R								6.2		13.8												
Engineering Change Orders								0.4		1.3												
Data								0.2		0.6												
Training Equipment										1.6												
Support Equipment																						
ILS								0.8		7.2												
Other Support		0.2				0.5		6.0		15.5												
Interim Contractor Support																						<u> </u>
Installation Cost																						
Total Procurement		0.8				0.5		23.0		71.5												

Notes

1. Totals may not add due to rounding 3. A-Kits, B-Kits, and Installation cost varies due to multiple & different functionalities/systems on each aircraft T/M/S

2. Asterisk indicates amount less than \$50K

4. B-Kits quantities differ from A-Kits where B-Kits consists of a card or module that will be integrated without A-Kit requirement.

Exhibit P-3a																									
MODELS O	SYSTEMS	AFFECTED:	:	P-3C, EP	-3E, C/K0	C-130, C-	-2A, EA-6	B, KC130	OJ, VH?3	D, VH-60N	N, F/A-18I	E/F, F/A-180	C/D E-2C,	MH-60S, M	IH-60R, U	H-3H, F/A-1	8A+, H-1	CH-53E			MODIFIC	ATION TITLE		CNS/ATM (O	SIP 21-01)
INSTALLAT	ON INFORM	IATION:																							
METHOD O	F IMPLEMEN	NTATION:													USN Field	Modification	Team								
ADMINISTR	ATIVE LEAD	TIME:			4	Months	<u> </u>			PRODUC	TION LE	ADTIME:			12		Months	•							
CONTRACT	DATES:		FY 2002:					_		FY 2003:					_		FY 2004:						FY 2005:		Jan-05
DELIVERY I	DATE:		FY 2002:					_		FY 2003:					_		FY 2004:						FY 2005:		Dec-05
													(\$ in Millic	ons)											_
	Cost:		Prior	Years	FY:	2002	FY	2003	FY	2004	F	Y 2005	FY	2006	FY	2007	FY	2008	FY	2009	То	Complete		ΓΟΤΑL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
	& PY () kits																								
FY 2002																									
FY 2003																									
FY 2004																									1
FY 2005																									_
FY 2006																									_
FY 2007																									
FY 2008						ļ							ļ												_
FY 2009			1				1																		-
	olete () kits		<u> </u>										ļ												_
TOTAL													l												J
Installatio	n Schedule																								
	FY 2001		FY 20	002			FY:	2003			FY	2004			FY:	2005			FY 2	2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In																									
Out																									
																	_								
		FY 20	07			FY	2008			FY	2009			To											
	1	2	3	4	1	2	3	4	1	2	3	4	Co	mplete	TO	OTAL	1								
In														1,312		312									
Out														1,312	1	312									

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Tactical Aircraft Moving Map Capability (TAMMAC) (OSIP 02-02)

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: TAMMAC provides the aircrew an easily assimilated graphical presentation of the aircraft's position and the relative positions of targets, threats, terrain features, planned mission flight path, no fly zones, safe bases and other objects. TAMMAC will present the aircraft's current situation on a map using new or existing cockpit displays. In addition to providing a basic moving map capability, the TAMMAC system will serve as a memory resource for the overall aircraft mission system and will incorporate an improved data transfer and recording capability. This memory resource includes a data loader function of sufficient memory capacity and speed to load/update all required map theater and mission system databases as well as the ability to record mission and maintenance data. TAMMAC will also provide a Terrain Awareness Warning System (TAWS) capability. The principle benefits anticipated, increased mission effectiveness and survivability, arise from improved situation awareness, reduced crew workload and enhanced capability for precision navigation, targeting, terrain avoidance, and mission replanning. The TAMMAC system will replace the existing Navy AN/ASQ-196 Digital Map Set which is facing major parts obsolescence problems and is not capable of growing to support future requirements. TAMMAC will also replace the AN/ASQ-194 Data Storage Set which has insufficient memory and loading speed to load map theater databases.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone III approved April 01.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY	2002	FY:	2003	FY 2	2004	FY	2005	FY	2006	FY	2007	FY	2008	FY	2009	To Co	mplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
TAMMAC Kit							114	0.2	112	0.3												
Installation Kits N/R																						
Installation Equipment																						
TAMMAC Equip							191	10.1	156	9.4												
Installation Equipment N/R																						
Engineering Change Orders				0.2				1.9		1.1												
Data						0.7		0.7		0.1												
Training Equipment								0.1		0.1												
Support Equipment						1.5	90	1.8	72	0.5												
ILS						*		0.1		0.3												
Other Support				0.8		1.1		2.2		2.2												
Interim Contractor Support																						
Installation Cost									114	1.2												
Total Procurement				1.0		3.4		17.2	_	15.2												

- 1. Totals may not add due to rounding 3. Difference in A and B kit is AMU only no A kit required.
- 2. Asterisk indicates amount less than \$50K 4. F/A-18 OSIP # 16-01 reflects 29 AMU only procurements in FY01.

xhibit P-3a																								
MODELS OF SYSTEMS	AFFECTI	ED:	F/A-18C	D/D/E/F, A	AV-8B			_	MOE	DIFICATIO	N TITLE:	Tactical A	Aircraft Mov	ing Map C	apability (ГАММАС)	(OSIP (02-02)						
NSTALLATION INFORI	MATION:																							
METHOD OF IMPLEME	NTATION:	:	USN Fiel	ld Modifica	ation Team	n																		
DMINISTRATIVE LEAI	OTIME:			4	Months	<u> </u>			PRODU	CTION LE	EADTIME:			12		Months	<u>.</u>							
CONTRACT DATES:		FY 2002:					_	ı	FY 2003:					_		FY 2004:		Ja	n-04		_	FY 2005		Jan-05
DELIVERY DATE:		FY 2002:						ı	FY 2003:							FY 2004:		De	c-04			FY 2005	:	Dec-05
							_							_							-			
Cost:		Prior	Years	FY	2002	FY	2003	FY 2	2004	FY	2005	(\$ in Mi	2006	FY	2007	FY	2008	FY	2009	To Co	omplete	Т	OTAL	7
000		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001 & PY () kits	3																							
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits		1		.		.				114	1.2							.		.				
FY 2005 () kits				<u> </u>	1													1		<u> </u>				-
FY 2006 () kits FY 2007 () kits				1		1												1		1		1		-
FY 2007 () kits				1		1														1				-
FY 2009 () kits				t		i e												t		t				1
To Complete () kits						1																		
TOTAL										114	1.2													
Installation Schedule																								_
FY 2001		FY 2		1			2003				2004				2005				2006	1				
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	ł			
ln -		1		<u> </u>		1	<u> </u>					ļ		38	38	38		<u> </u>		<u> </u>				
Out														38	38	38					J			
				1				1								7								
	FY 20		1	_		2008	1 4	4		2009		1	To		т.									
1	2	3	4	1	2	3	4	1	2	3	4	1	nplete		TAL	1								
In Out		1		-	1	1	 	-					145		559	ł								
Out												4	145	5	59									

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Advanced Mission Computer & Displays (AMC&D)/ Multipurpose Color Display (MPCD) (OSIP 01-02)

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B, T-45 TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

Advanced Mission Computer and Displays(AMC&D) System is targeted to replace existing aging/obsolete and performance limited AN/AYK-14(V) Mission Computer (MC) and Contractor Furnished Equipment Displays. AMC&D system consists of an Advanced Mission Computer (AMC) which includes Mission Processing, and Display Processing, Display Heads (DH), High-Speed Data Bus interfaces with Fibre Channel Network Switches (FCNS) and an 8x10 display. AMC&D system would arcomponents intergrated on an Open Posstems Architecture so that it can be tailored and configured for each application, and can address new performance requirements and technologies with minimum cost. AMC&D will provide improved mission computers and displays to handle increased requirement for flight, mission, and imagery data. Due to obsolescence problems with the current Multipurpose Color Display (MPCD) display, the AMC&D program is leveraging the 5x5 DH to provide a form, fit, function and interface replacement (no install funding required). MPCD production buys begin in FY02 and AMC&D LRIP production buys began in FY01 with FRP buys planned in FY04. The F/A-18E/F Retrofit Program goal is to achieve a 2-block configuration. Block 1 aircraft include Lots 2:1-25 and Block 2 includes Lots 2:6 and above. Block 1 will consist of replacing the AMC with an newer configuration AMC in Lots. The computers are obtained as part of a reuse program from Block 2 portion of the upgrade and all Lots will require an A-kit. Lots 26 and 27 of Block 2 are provisioned to accept all WRAs for Block 2. The 06 procurement for Lots 26 consists of FCNS, displays and digital video mapping card. The 06 procurement for Lot 27 consists of displays, DVMC, and upgrade to a card in the AMC. To maintain the common block configuration, new AMCs are procured for Lots 12 and 29 will be part of the reuse to the Block 1 configuration. The AMCs procured for Lot 28 and 29 do not require installation costs since they are a form fit function replacement for as-delivered AMCs. The systems removed from

AMC&D MNS - M061-88-94 of 2 December 1994. AMC&D ORD Ser. No. 549-88-00 Approved 21 March 2000.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AMC and 5x5 display CDR - 2nd Qtr FY01. FCNS CDR - 4th Qtr FY01, 8x10 CDR - 2nd Qtr FY02. F/A-18E/F: OPEVAL - 2nd Qtr FY03, Milestone III - 3rd Qtr FY04, OA - 3rd Qtr FY02, FOT&E 2nd Qtr FY04. AV-8B DT-IIB-2 - 4th Qtr FY01, OPEVAL - 4th Qtr FY02, Milestone III - 2nd Qtr FY03.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prior	Years	FY 2	2002	FY:	2003	FY 2	2004	FY 2	2005	FY 2	2006	FY 2	2007	FY:	2008	FY	2009	To C	omplete	Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AMC&D / MPCD Kit																						
Installation Kits N/R																						
Installation Equipment																						
AMC&D / MPCD Equip			65	11.0			83	11.3	71	9.5												
Installation Equipment N/R						8.2		17.6		9.5												
Engineering Change Orders																						
Data				0.4																		
Training Equipment				0.4				1.1		0.6												
Support Equipment																						
ILS				1.6		0.9		2.9		1.1												
Other Support				4.8		2.5		2.6		2.9												
Interim Contractor Support																						
Installation Cost																						
Total Procurement				18.2		11.5		35.4		23.7												

Notes

- 1. Totals may not add due to rounding
- 3. MPCD is a drop-in-replacement. No A-kit requried.

5. See Install footnote for further clarification.

- 2. Asterisk indicates amount less than \$50K
- 4. B-Kit (WRA) procured in outyears are necessary to meet common block configuration.

it P-3a																												
ELS OF	SYSTEM	MS AFFEC	TED:	F/A-18C/	D/E/F, A	V-8B, T-45	5		_	MOD	DIFICATIO	N TITLE:	Advanced	Mission C	omputer & D	Displays (A	MC&D)/ M	ultipurpose	Color Disp	olay (MPCI	O) (OSIP	01-02)						
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IOD OF	IMPLEME	MENTATION	N:	Prime Con	tractor																							
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	Cost:		Prior	Years	FY	2002	FY	2003	FY	2004	FY	2005	FY 2	2006	FY 2	007	FY	2008	FY:	2009	To Co	omplete	T	OTAL	Ī			
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Exhibit P-3a Individual Modification

MODIFICATION TITLE: Attitude Gyro Upgrade (OSIP 07-04)

MODELS OF SYSTEMS AFFECTED: CH-53E, MH-53E, CH-60S, OP-3C, HH-60H/J, P-3C, S-3B, SH-60B/F/H, SH-3H, MH-60R, and UH-3H TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

There are eleven (11) current attitude gyro systems in the CH-53E, MH-53E, CH-60S, EP-3C, HH-60H/J, P-3C, S-3B, SH-60B/F/H, SH-3H, MH-60R, and UH-3H aircraft that are significant fleet operational and support cost drivers in the flight hour program. Two state-of-the-art Commercial-off-thr-Shelf (COTS) products are available to improve readiness and reduce fleet operational and support costs in the flight hour program. The solution to the problem is to replace these obsolete gyros with a more reliable and, maintainable gyro at the very lowest cost. In order to minimize time and cost for fleet introduction, replacement units shall be COTS in nature and be a form, fit, functional replacement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

COTS/NDI replacement system.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY 2	2003	FY	2004	FY	2005	FY	2006	FY:	2007	FY:	2008	FY	2009	To Co	mplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
Attitude Gyro Upgrade Kit																						
Installation Kits N/R																						
Installation Equipment							68	0.8	1,095	10.0												
Attitude Upgrade Equip																						
Installation Equipment N/R								1.4														
Engineering Change Orders																						
Data								1.0														
Training Equipment																						
Support Equipment																						
ILS																						
Other Support								1.2		5.2												
Interim Contractor Support																						
Installation Cost																						
Total Procurement								4.4		15.2												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a	Individual Modification		
MODIFICATION TITLE:	HH-60 AHRS Reliability & Improvement (CREI) (OSIP 08-04)		
MODELS OF SYSTEMS AFFECTED:	HH-60H	TYPE MODIFICATION:	Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

The Attitude Heading Reference Systems (AHRS) Reliability Improvement initiative will address reliablity, obsolescence and support problems for the HH-60H. The replacement system, A/A24G-51 is a COTS/NDI system which replaces the gyroscope, amplifier and remote compass transmitter. This more reliable, maintainable system is currently fielded in the CH-46E platform.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

COTS/NDI replacement system.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY 2	2003	FY:	2004	FY	2005	FY	2006	FY 2	2007	FY:	2008	FY2	2009	To Co	mplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AHRS Kit																						
Installation Kits N/R																						
Installation Equipment																						
AHRS Equip							15	0.6	17	0.6												
Installation Equipment N/R								0.3														
Engineering Change Orders																						
Data								0.2														
Training Equipment																						
Support Equipment																						
ILS										*												
Other Support																						
Interim Contractor Support																						
Installation Cost																						
Total Procurement								1.0		0.7												

- 1. Totals may not add due to rounding
- 2. Asterisk indicates amount less than \$50K

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Aircrew Wireless Internal Communications System (AWICS) (OSIP 09-04)

MODELS OF SYSTEMS AFFECTED: MH-53E, CH-46E, HH-60H, CH-53D/E, SH-60B/F, MH-60S/R, KC-130T, KC-130T, KC-130J, MV-22B, C-2A, UH-3H, SH-3D, P-3 (all TMS), and UH-1 TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

A wireless intercom system that will allow for unimpeded movement throughout the aircraft. This safety improvement will prevent aircrew/passenger entanglement with ICS (intercom system) cords in the event of a mishap.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: TBD.

FINANCIAL PLAN: (TOA, \$ in Millions)

	Prio	r Years	FY	2002	FY 2	2003	FY	2004	FY	2005	FY	2006	FY:	2007	FY	2008	FY2	2009	To Co	omplete	Т	otal
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
AWICS Kit							16	*	249	0.3												
Installation Kits N/R								0.4		*												
Installation Equipment																						
AWICS Equip							16	0.3	249	4.3												
Installation Equipment N/R							8	0.4	5	0.6												
Engineering Change Orders																						
Data								0.4		0.4												
Training Equipment								0.1		0.1												
Support Equipment							2	*	31	0.2												
ILS								0.1		0.3												
Other Support								0.5		2.0												
Interim Contractor Support																						
Installation Cost							16	*	221	0.4												
Total Procurement								2.2		8.5										1		

^{1.} Totals may not add due to rounding

^{2.} Asterisk indicates amount less than \$50K

Exhibit P-3a																										
MODIFICATIO	N TITLE	:		Aircrew V	Vireless Inter	com Comr	nunication	ıs System (AWICS)	(OSIP 09-0	04)		-													
MODELS OF	SYST	EMS A	AFFECT	ΓED: <u>MH</u>	-53E, CH-4	16E, HH-6	юн, сн-	53D/E, SH	l-60B/F,	MH-60S/F	R, KC-130	R/T, C-13	80T, KC-13	0J, MV-2	2B, C-2A,	UH-3H,	SH-3D, P	-3 (all TM	IS), and I	JH-1						
INSTALLATI	ON INF	ORMA	ATION:																							
METHOD OI	F IMPLE	MEN	TATION	1:	Contractor	or USN Fie	ld Modific	ation Team																		
ADMINISTR	ATIVE L	EAD1	IME:		5	i	Months	<u>s</u>			PRODUC	TION LE	ADTIME:				1	Months								
CONTRACT	DATES	S:		FY 2002:		-					FY 2003:		-			_		FY 2004:		Jul-04	(LF	RIP)	_	FY 2005:		Mar-05
DELIVERY [DATE:		1	FY 2002:		-					FY 2003:		-					FY 2004:		Aug-04			_	FY 2005:		Apr-05
													(\$ in Millio	ns)											
	Cost			Prio	r Years	FY	2002	FY	2003	FY	2004	FY	2005		2006	FY:	2007	FY 2	2008	FY 2	2009	To Co	omplete	TO	OTAL	
				Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
FY 2001) kits																								
FY 2002																										
FY 2003																										
FY 2004										16	*															
FY 2005							ļ					221	0.4													_
FY 2006						1		1																		_
FY 2007				-		1	-	1				-		-		-										-
FY 2008						1																				1
FY 2009 To Comp		l/ite																								-
TOTAL	nete ()	KILO								16	*	221	0.4													1
TOTAL						1	l	1				221	0.4				l .						1		l	_
Installation	n Sched	lule																								
	FY 200	1		FY	2002			FY:	2003			FY:	2004			FY 2	2005			FY 2	2006]			
	& Pric	or	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
In														16			108	113]			
Out														16			108	113								
																		•								
			FY 2		1			2008				2009	1		Го											
l ——	1	_	2	3	4	1	2	3	4	1	2	3	4		nplete		TAL									
In .		-						ļ							236	_	173									
Out				1	l			1	l			l	l	1:	236	1,4	173	J								

Exhibit P-40, BUDGET ITE	EM JUSTIFICATIO	N							DATE:			
										FEBRU	ARY 2003	
APPROPRIATION/BUDGET AC Aircraft Procurement, Navy/		ifications					P-1 ITEM NOMEI MV-22 MODIFICA					
Program Element for Code B Iter	ms:						Other Related	Program Elem	ents			
	Prior Years	ID Code	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QTY		A										
COST (In Millions)	35.0	A	17.1	4.8	4.8	35.5	19.2	23.9	24.4	24.8	361.0	550.5

The V-22 is a tilt-rotor, vertical takeoff and landing aircraft currently being developed for joint service application. The program is being designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and supplement USSOCOM special mission aircraft. The aircraft will be capable of flying 2,100 miles with one refueling, giving the Services the advantage of a Vertical/Short Takeoff and Landing (V/STOL) aircraft the could rapidly selfdeploy to any location in the world.

The FY 2003 budget request reflects the funding level necessary to correct currently known deficiencies and allow the program to move forward. The FY 2003 modifications program procures retrofit kits necessary to correct discrepancies identified during initial flight testing as well as those resulting from any redesign efforts.

The current procurement objective is 458. 360 MV-22 Marine Corps aircraft (includes one Maintenance Trainer), 50 CV-22 aircraft for USSSOCOM (funded by USSOCOM and the Air Force) and 48 HV-22 Navy aircraft. A total of 10 V-22 aircraft have been delivered. FY-01 and FY-02 is the retrofit procurement associated with the current available (8) aircraft and (3) simulator(s). FY-05 begins the procurement of retrofit kits for additional outyear delivered aircraft.

Type Modifications: Safety, Reliability, Increased Service Life, Improved Mission Capabilities

(TOA, \$ in Millions)

OSIP No.	<u>Description</u>	Prior Years	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To <u>Complete</u>	<u>Total</u>
22-01	MV-22 Correction of Deficiencies and Pre Block A through C	35.0	17.1	4.8	4.8	35.5	19.2	23.9	24.4	24.8	361.0	
Note: Tota	Total Is may not add due to rounding.	35.0	17.1	4.8	4.8	35.5	19.2	23.9	24.4	24.8	361.0	

UNCLASSIFIED CLASSIFICATION: DD Form 2454, JUN 86 ITEM NO. 54 PAGE NO. 1

ASSIFICATION: UNCLASSIFIED

Exhibit P-3a Individual Modification

MODIFICATION TITLE:

MODELS OF SYSTEMS AFFECTED:

MV-22

MV-22

MV-22

MV-22

TYPE MODIFICATION:

MV-22

TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

ECP-344: REGULATED CONVERTER: Incorporates fixes to alleviate concerns associated with spec compliance and eliminate nuisance failures for fleet aircraft.

SHAFT DRIVEN COMPRESSOR SCREEN: Incorporates a new shaft drive compressor screen with one piece inner and outer frames to reduce the number of parts and larger holes to increase air flow.

RAMP ACTUATOR: Incorporates fixes for reliability and life limit deficiencies. There are two ramp actuators per aircraft.

CARGO RESTRAINT SYSTEM: Changes the cargo restraint factors from a dynamic to a static tie down system to improve Fleet suitability.

FUEL ISOLATION TUBES: Incorporates the productionized final design for resistive tubes on hoses for lightning strike protection.

AVIONICS: Avionics modifications to the V-22 will improve display reliability, eliminate communication security issues and alleviate parts obsolescence/vendor problems. Changes to the V-22 avionics will include: Display System upgrade, Cockpit Inter Communication System modification, upgraded Mission Computer, updated Data Transfer Module, Control Display Unit/Engine Instrument Caution Advisory System upgrade, Control Display Unit Keyboard upgrad, and Avionics Interface Units upgrades.

POWER TRANSMISSION AND CONTROL: Changes to the V-22 Power Transmission and Control System will improve reliability and maintainability. Changes to the V-22 Power Transmission and Control System will include: swashplate reliability upgrades, engine gimbal ring/spherical bearing installation revision, updated refuel/defuel valve, bull gear shroud and engine gimbal ring.

COCKPIT: Changes to the V-22 cockpit will improve crew safety, mission suitability and overall reliability. Changes to the V-22 cockpit include: night vision goggle compatible hardware, upgraded inertial reels, upgraded pilot and co-pilot restraint system, throttle control lever soft stop modification, and improved rain removal.

STRUCTURAL: Structural changes to the V-22 will increase survivability, improve maintainability and aircraft availability, eliminate component interferences, improve suitability and correct safety related issues. Structural changes include: forward sponson fuel bladder access redesign/install powder panels, environmental control unit Ram air barrier filter, avionics left hand mounting tray, aft upper door strut, add manual drive decal, fold blades in high winds and modified trunnion fitting.

PRODUCTION ROTOR LIGHTING PROTECTION: Improves rotor system lighting protection by adding improved bonding harness and grounding strap bracket.

BRACKET HYDRAULIC LINE CLAMPING: Relocate clamping provisions from the removable conversion actuator fairing to the frame and improve the tube installation.

SWASHPLATE DRAG TUBE: Redesign Swashplate Drag Tube to increase part life.

WASHER: Washer to now be included with attach hardware to ensure adequate tying of the assembly.

RELIABILITY & MAINTAINABILITY FIXES: Includes Corrective Action Plans to make the aircraft compliant with Operation Requirements Document requirements.

AIRCRAFT MAINTENANCE TRAINER: Improves training and pilot proficiency by incorporating modifications to the AMT to reflect most current aircraft configuration as directed by Blue Ribbon Panel.

FULL FIDELITY SIMULATOR (FFS) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FFS to reflect most current aircraft configuration as directed by Blue Ribbon Panel.

FLIGHT TRAINING DEVICE (FTD) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FTD to reflect most current aircraft configuration as directed by Blue Ribbon Panel.

FRE BLOCK A through BLOCK C: Major configuration changes include: Nacelle changes, Avionics, Blade Fold Harness, Fuel Probe, Active Vibration Suppression System, Constant Frequency Generator and Variable Frequency Generator. Additional configuration changes include Effectiveness and Suitability and Enhanced Capability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The MV-22 aircraft are currently in Low Rate Production. First acceptance and incorporation has been in production aircraft. ECP-344 Kit deliveries and Installations are on schedule.

P-1 SHOPPING LIST
DD Form 2454, JUN 86

P-1 SHOPPING LIST
ITEM NO. 54 PAGE NO. 2

CLASSIFICATION: UNCLASSIFIED

FINANCIAL PLAN: (TOA, \$ in Millions)

		Years	FY 2			2003		2004		2005	FY 2			2007	FY 2		2009		omplete		Total
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$ Qty	\$	Qty	\$	Qty	\$
RDT&E																					
PROCUREMENT																					
Installation Kits																					
ECP V-22-0344																					
CCP10641R2/Display System Upgrade/Flat Panels	8	2.2																			
CCP 10670R1/Implementation of Cockpit Intercom Mod	8	0.3																			
CCP10703r1/Advanced Mission Computer Post Part Number Roll	8	3.0																			
CCP10716/Swashplate Actuator	8	4.5																			
CCP 10718/Eng Gimbaling Ring Spherical Bearing Instl	4	0.3																			
CCP 40008/Night Vision Goggles Compatibility Rqmt Cockpit Hardware	8	0.2																			
CCP V-22-0161/Shaft Driven Compressor Reliability Improvementl	8	0.3																			
CCP V-22-0177R1/Instl Pwdr Panels, Fwd Sponsor Fuel Bladder Access Redesign	8	2.6																			
CCP V-22-0188/Data Transfer Module Proposal	8	0.4																			
CCP V-22-0192R1/Regulated Converter	8	2.0																			
CCP V-22-0206/Inertial Reels	8	0.2																			
CCP V-22-0216/Control Display Unit/Engine Instru. Crew Alerting System Redesign	8	1.0																			
CCP V-22-0217/Shaft Driven Compressor	8	0.1																			
CCP V-22-0224/Avionics Left Hand Mounting Tray	8																				
CCP V-22-0249/Environmental Control Unit Ram Air Barrier Filter	8	2.6																			
CCP V-22-0279/Update Ramp Actuator - 113	8																				
CCP V-22-0290/Pilot/Copilot Restraint Sys																					
CCP V-22-0296/Cargo Restraint System																					
CCP V-22-0301/Control Display Unit Keyboard Redesign	8	0.6																			
CCP V-22-0319/Refuel/Defuel Valve	8																				
CCP V-22-0107/Thrust Control Lever Soft Stop	2																				
CCP V-22-0138/Aft Upper Door Strut	8	0.1																			
CCP V-22-0147/Rain Removal	6																				
CCP V-22-0151/Add Manual Drive Decal	4																				
CCP V-22-0160/Fold Blades in High Winds																					
CCP V-22-0162/Bull Gear Shroud																					
CCP V-22-0163/Swashplate Gimbal Ring	8	0.6																			
CCP V-22-0208/Fuel Isolation Tubes	8	0.3																			
CCP 10692/Trunnion	8																				
CCP-TBD Reliability and Maintainability Changes																					
CCP TBD NACELLE Safety Improvements																					
ECP V-22-0348/Interface Units	8	0.3																			
Pre Block A to B									4	21.3											
Block A to C																					
Block B to C																					
Installation Kits N/R		3.5																			
Installation Equipment																					
XXX Equip																					
Installation Equipment N/R		0.6																			
Engineering Change Orders																					
XXX Kit ECO XXX																					
XXX Equip ECO XXX																					
Data	İ	0.2																			
Training Equipment	3		1	10.1	3	2.0	4	4.7	9	14.1			1					1			1
Support Equipment	l i									l											
ILS	1	1.0					1		1				1					1			1
Other Support	1						1		1				1					1			1
Interim Contractor Support																					
Installation Cost			195	7.0	1	2.9	3	0.1	4	0.1		İ									i –
			. 50					, ,,,,	<u> </u>												

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than \$50K

xhibit P-3a																											
ODELS OF SYSTEMS AFFECTED:				MV-22							MODII	FICATIO	N TITLE:	SA	FETY, RE	LIABILITY	, INCREAS	SED SER	VICE LIFE	, IMPRO	VED MISS	ION CAPAI	BILITY				
ISTALLATION INFORMATION:																											
ETHOD OF IMPLEMENTATION:																											
DMINISTRATIVE LEADTIME:					Various		Months	<u>i</u>			PRODU	CTION L	EADTIM	E:		Various		Months	-								
ONTRACT DATES:			FY 2002:		J	ULY 200	12	_,		FY 2003:			Various		_				FY 2004:		Variou	s	_		FY 2005:	٧	Various
ELIVERY DATE:			FY 2002:		Various					FY 2003:			Various						FY 2004:		Variou	s			FY 2005:	٧	Various
											(\$ in	Millions)															
Cost:			Prior	Years	FY 2	2002	FY	2003	FY	2004	FY		_	2006	FY:	2007	FY 2	008	FY 2	2009	To C	omplete	TO	OTAL	7		
Oddi.			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
FY 2001 & PY () kits			i i		195	7.0			,					Ì													
FY 2002 () kits							1	2.9																			
FY 2003 () kits									3	0.1																	
FY 2004 () kits											4	0.1															
FY 2005 () kits																											
FY 2006 () kits																											
FY 2007 () kits																											
FY 2008 () kits																											
FY 2009 () kits																											
To Complete () kits																											
TOTAL					195	7.0	1	2.9	3	0.1	4	0.1															
Installation Schedule																						<u>-</u> .					
	FY 2001		FY 200					2003			FY:				FY:				FY:								
-	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In .	1		195				1			3				4													
Out	l	l		L			L	195		1	l	3	L	<u> </u>	<u> </u>	4					<u> </u>						
		E1.00	-			=											r										
	1	FY 200	3	4	1	2 FY:	2008	4	1	2 FY	2009	4		Γo nplete	то:	TAL											
la .	1		3	4	1 1		3	4	1	2	3	4	Con	ipiete													
In Out	1		-	-	-			1			1				3:	30 63											